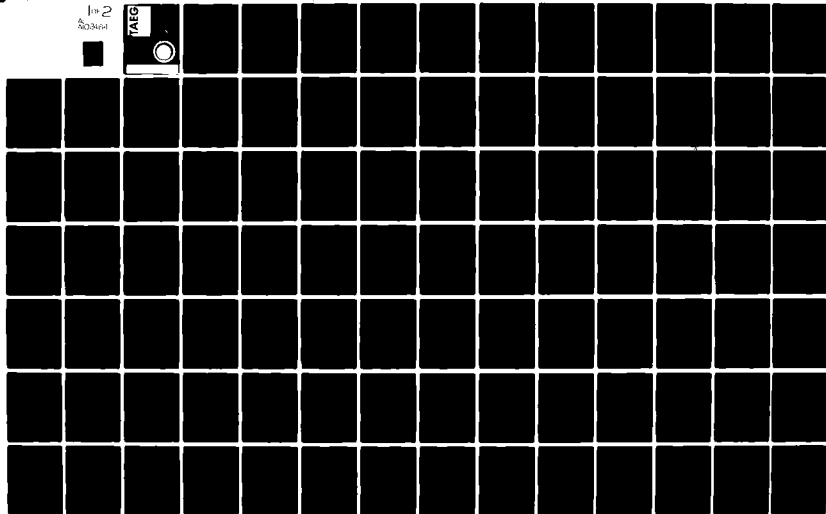AD-A102 464   TRAINING ANALYSIS AND EVALUATION GROUP (NAVY) ORLANDO FL   F/G 5/9
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LEVEL II

AN ANALYSIS OF FACTORS AFFECTING THE SITING OF NAVY INSTRUCTOR TRAINING

MAY 1981

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TRAINING ANALYSIS AND EVALUATION GROUP
ORLANDO, FLORIDA 32813

AN ANALYSIS OF FACTORS AFFECTING THE SITING OF NAVY INSTRUCTOR TRAINING

Edward A. Heidt
James M. Corey
D. Robert Copeland
William M. Swope

Training Analysis and Evaluation Group

May 1981

ALFRED F. SMODE, Ph.D., Director,
Training Analysis and Evaluation Group

W. L. MALOY, Ed.D.
Deputy Chief of Naval Education and
Training for Educational Development/
Research, Development, Test, and
Evaluation

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This report reviews the issue of centralizing the Navy instructor training sites. An analysis of current factors having an influence on the decision to centralize is presented.
The objectives of the study were to:

- identify current issues affecting Navy instructor training

(continued)

20. ABSTRACT (continued)

. assess those issues in terms of curriculum and
centralization alternatives

. conduct a cost analysis of a selected set of centrali-
zation alternatives.

Results of the study suggest that previous cost savings which might have
been obtained through site centralization are no longer available,
primarily because of recent increases in travel costs. Under current
conditions, any decision to centralize IT should be made on the basis
of noncost factors.

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SECTION I

INTRODUCTION

Considerable attention and resources have been focused on the training of Navy instructors and training management personnel during the past decade. A major concern has been the development and maintenance of an effective and efficient instructor training (IT) program. A recurrent theme in the attempt to enhance the efficiency of the IT program has been the centralization of its training sites. Past studies have suggested that certain economies might be achieved through centralization, although some of the qualitative benefits associated with multiple sites might be lost. This report reviews the issue of centralization and describes an analysis of current factors having an influence on the decision to centralize.

BACKGROUND

A brief review of IT in the Navy provides an indication of its extent and complexity and suggests organizational, curricular, and procedural factors that must be considered in any discussion of centralization. The Chief of Naval Technical Training (CNTECHTRA), a functional command of the Chief of Naval Education and Training (CNET), exercises direct command over most formal instructor training in the Navy. The CNTECHTRA anticipates an annual throughput of approximately 5,900 students in various IT programs during 1981 to 1986. Other CNET functional commands also provide courses for instructor preparation. The Catalog of Navy Training Courses (CANTRAC) lists 38 individual courses with the word "Instructor" in the title and several more oriented to training "management." Courses under the cognizance of the Chief of Naval Air Training (CNATRA) and the Commanders of the Atlantic and Pacific Training Commands (COMTRALANT and COMTRAPAC) are included. These courses range in length from one day to several months, and the number of students graduating fluctuates widely.

The phrase "instructor training" implies preparation for a variety of instruction-related tasks. Most IT graduates will be assigned some of the tasks and functions of an "instructor," but the nature of these tasks may differ significantly depending on duty station or assignment. Instructors must be prepared to (1) teach courses offered in a group-paced environment, (2) present instructional material that may range from the general to the very specific, and (3) apply instructional techniques that may range from the conventional (platform) lecture to a completely individualized program of instruction. Similarly, the management of students in different courses may be accomplished manually by the instructor or through the use of a sophisticated, computer-based system. Instruction-related tasks may include course design and development, course or student evaluation, student or program counseling, and supervision or management. Section II of this report provides a more detailed description of the current instructor training system.

In 1974, the Training Analysis and Evaluation Group (TAEG) began an examination of the Navy instructor training system to "assess the impact upon that system of predicted changes in the educational, military and industrial

environments of the 1975 to 1985 period."[1] As part of that study, the feasibility of centralizing six CNTECHTRA instructor training schools was explored. Although an unqualified recommendation to centralize did not result, the report concluded that existing scale economies warranted review of the centralization question given any future long-term expansion of these IT schools.

In 1975, as part of the IT assessment, the TAEG hosted an interservice conference titled Military Instructor Training in Transition.[2] A sampling of the instructional training programs and procedures of the various military services, industry, and the Royal Navy was presented. Emphasis was on qualitative considerations to be addressed in developing IT systems for the future. Based on the results of the first study and conference findings, the CNET directed the TAEG to conduct a second study to investigate alternative centralization plans.

The second study[3] identified and examined those economic and noneconomic (qualitative) variables which would affect a decision to centralize the six primary training sites in the CNTECHTRA IT system. Options were considered to combine the six schools into: (1) a single school or academy, (2) two schools, or (3) three schools. It was concluded that any form of centralization could produce both quantitative and qualitative improvement of the IT system. A two-site system was projected to be the most economical; a three-site system was most supportive of the qualitative considerations.

Subsequent to these studies, various events have occurred in the Naval Education and Training Command (NAVEDTRACOM) that affect the centralization question. In 1977, curricula that comprised the courses of the IT system were scheduled for review as part of a Computer Managed Instruction (CMI) implementation plan. CNET Instruction 5260.1 of 17 February 1977 proposed that IT courses at San Diego, Memphis, and Great Lakes be revised to accommodate CMI beginning in FY 79. Instructional program authority for the curricular revision was assigned to the Instructional Program Development (IPD) Detachment, Norfolk. In 1979, a contract was awarded for IT curricula revision. The implementation of that IT revision will offer a logical point at which to review and modify the associated IT program management structure; the question of centralization is an important part of that review.

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[1]Clarence J. Papetti, Karen D. Lam, and William M. Swope. Instructor Training. TAEG Report No. 17, June 1975. Training Analysis and Evaluation Group, Orlando, FL 32813 (AD A015294), p. 5.

[2]Alfred F. Smode and Karen D. Lam (eds.). Military Instructor Training in Transition. TAEG Report No. 25, May 1975. Training Analysis and Evaluation Group, Orlando, FL 32813 (AD A013330).

[3]Clarence J. Papetti, Thomas F. Curry, Jr., and Eric K. Green. Centralized Instructor Training for Naval Technical Training. TAEG Report No. 38, November 1976. Training Analysis and Evaluation Group, Orlando, FL 32813 (AD A036477).

During the periods that IT was being studied, CNET, CNTECHTRA, and TAEG jointly addressed questions in other areas that affect or are affected by the issue of IT centralization. As directed by CNET,[4] one of these questions focused on assessing the proper amount and kinds of training required by Recruit Training Command (RTC) Company Commanders (CCs); another considered the use of a single site (centralization) for CC training for the three RTCs. Company Commander training includes completion of IT as a prerequisite, and the question of centralization is relevant to both IT and CC training managers.

In a related effort, the Chief of Naval Operations (CNO) has instructed that leadership and management education and training (LMET) objectives for "A" school instructors and RTC CCs be validated. In 1980, the TAEG began an effort to identify characteristics of superior leadership among "A" school instructors and RTC CCs and to develop the learning objectives for an LMET course emphasizing those characteristics. This LMET course will likely be offered as part of the IT pipeline.

The CNTECHTRA[5] requested that CNET task the TAEG to update information related to the centralization of Navy instructor training. In completing this task, relevant initiatives were to be considered and integrated into the study, where appropriate. The CNET concurred and formally assigned the effort to the TAEG.[6]

PURPOSE

The purpose of this study was to update the information and recommendations contained in TAEG Report No. 38. Specifically, the study was to identify current issues affecting Navy instructor training, assess those issues in terms of curriculum and centralization alternatives, and conduct a cost analysis of a selected set of centralization alternatives.

APPROACH

To accomplish this study, alternative centralization scenarios were postulated for evaluation. The evaluations included assessments of the impact of economic and qualitative (noncost) factors on IT centralization. Qualitative factors identified for consideration included:

- projected implementation of new or revised IT curricula

- consolidation of IT and LMET

- consolidation of IT and CC training

- determination of the scope of the projected IT system

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[4] CNET ltr Code 53 of 6 Dec 1979.

[5] CNTECHTRA ltr 0162/WPC, 1550.3 of 19 May 1980.

[6] CNET ltr Code 53 of 30 May 1980.

. the Navy Instructor Career Program (NICP)

. use of mobile teams for IT

. comparison of the use of acti.e duty vs. civil service vs. contract personnel in instructor billets.

The data and supporting information used to develop the centralization scenarios were obtained from personnel associated with IT within the Navy and other military services. The current status of instructor training in the Navy was used as baseline data. These baseline data were obtained from (1) surveys administered to IT training activities and a sample of IT personnel and (2) review of Navy data bases. Technical information concerning the specific techniques, methodologies, and procedures used to complete this study is provided in each section of this report as appropriate.

ASSUMPTIONS AND CONSTRAINTS

Specific assumptions and/or constraints which affect the development or understanding of individual issues are identified in those sectiuns of the report where they apply. Certain generic assumptions and constraints are applicable to the study as a whole.

1. Navy IT will continue as a viable requirement in support of Navy-provided, Navy-oriented training.

2. This study addresses only Navy offered instructor training. Although the IT offered by other military services and the possibility of a joint service IT program were initially considered for inclusion, it was deemed impractical to expand the scope of this study beyond Navy-related IT.

3. Instructor training conducted outside the NAVEDTRACOM (e.g., NAVMAT, BUMED) was not considered in any computation.

4. CNET directed that IT courses under the cognizance of CNATRA were not to be included in the study.

5. Any additional instructor training or orientation for those specialized instructor duties (primarily officer) associated with assignment to the Naval Academy, the Naval War College, the Naval Postgraduate School, and/or similar activities has not been addressed.

6. All characteristics of the courses currently under development by contract were based on estimates of personnel associated with the contract. It is expected that some or all of the current IT program will be replaced by material now under development.

7. Data obtained from established Navy computer-based recording or accounting systems were assumed to be sufficiently valid for study purposes.

ORGANIZATION OF THE REPORT

In addition to this introduction, the report consists of four sections and six appendices. Section II describes the process used to develop the alternative centralization scenarios, including methodology, qualitative considerations, and selection rationale. Section III describes the alternatives which were selected for detailed evaluation. Section IV summarizes the economic analyses of the alternatives. Section V summarizes the study and provides conclusions and recommendations. Appendix A is a list of instructor training-related courses currently identified in the CANTRAC. The topical outline of the Senior Officer Training Management Course (SOC) is presented in appendix B. Appendix C provides the organizational structures supporting the alternative training scenarios. Appendix D contains the IT school survey and identifies the schools and courses surveyed. Appendix E contains the instructors survey. Appendix F presents the number and type of civil service instructors that would be required for staffing the various alternatives.

SECTION II

FACTORS CONSIDERED IN THE FORMULATION OF CENTRALIZATION ALTERNATIVES

This section explains the methodology used to develop centralization alternatives for instructor training and describes those factors which affected the selection of alternatives for detailed evaluation.

The identification, development, and description of system alternatives that might emerge in support of the Navy's future efforts in IT is a difficult undertaking. It is impossible to account for all factors which affect the organization and operation of the IT program. Consequently, this analysis focuses on selected factors which will continue to have a significant impact on the IT program or which may have emerged since the completion of previous IT studies. These factors are presented and discussed as follows:

- IT program of instruction
- site selection
- Navy Instructor Career Program
- contract instructors for IT
- mobile teams.

METHODOLOGY

A number of techniques and procedures were used to develop the IT alternatives for detailed analysis. The data sources, techniques, and procedures are summarized below.

- A review was made of IT practices and procedures in the Navy and the other military services. This included a review of available documents, interviews with concerned personnel, and questionnaires administered to personnel associated with IT in different capacities.

- Contacts were made with CNET; CNTECHTRA; IPD Detachment Norfolk; Army Training and Doctrine Command; the Commander, Air Training Command, Randolph Air Force Base; Technical Training Wing, Keesler Air Force Base; representatives of Headquarters Marine Corps; and selected Navy commands and Navy IT schools to obtain additional data and information.

- Available NAVEDTRACOM computer based data systems were queried to acquire specific, up-to-date information about school enrollments, class offerings, instructor assignments, and similar descriptive statistics. Data were obtained from the Navy Integrated Training Resources and Administrative System (NITRAS), the TAEG-developed NITRAS Reporting System (NRS), the CANTRAC, and the CNET-developed Zero-Based Display System.

- A rational analysis was conducted to identify and select IT siting configurations for detailed study.

. Training staff requirements were computed for each of the selected
IT site configurations, and a cost analysis of each alternative
was performed.

. The results of the cost analyses and qualitative factors were used
to draw conclusions and make recommendations regarding IT centrali-
zation.

THE IT PROGRAM OF INSTRUCTION

The most important element in any IT system is its program of instruction.
The current Navy IT program, the IT program currently under contract, and
proposed modifications to these programs were considered in developing alterna-
tives for analysis.

IT PROGRAM OF INSTRUCTION--STATUS QUO. More than 40 formal courses dealing with
all aspects of instructor and training manager preparation comprise the NAVEDTRA-
COM IT system. A list of these courses is provided in appendix A. These
courses:

. use and teach the use of a variety of instructional methods and
techniques, including group- and self-pacing, individualized instruc-
tion, and the application of instructional media

. prepare personnel to teach material of varying degrees of specificity,
to teach in different training environments, and to teach personnel
with a broad range of abilities

. use and teach the application of various management systems or pro-
cedures (e.g., CMI) to various course offerings

. are offered at multiple locations

. require coordination of effort in development, revision, and
scheduling

. consume instruction time ranging from one day to several months

. may be taught by military and/or civilian instructors.

In addition to the training represented by those courses formally
identified in CANTRAC, a significant amount of formal and informal IT takes
place. For example, the training of incoming Naval Reserve Officers Training
Corps (NROTC) instructors and prospective commanding and executive officers
occurs annually at seminars convened for that purpose. Similarly, the
orientation of professors, instructors, and staff for such institutions as
the Naval War College, the Naval Postgraduate School, and the Naval Academy
would fall outside formal listings, even though that training may be required
and scheduled on a regular basis.

On a more informal basis, many commands and activities provide their
incoming instructors and staff with specific, localized training. On-the-
job training, the use of representatives from a regular IT school on an
informal basis, and the requirement for completion of instructional packages

or correspondence courses by an individual are other examples of informal instructor and training manager preparation.

Another category of IT not documented but available to NAVEDTRACOM personnel includes training offered by other Navy activities (e.g., Bureau of Medicine, Naval Material Command) and the other military services.

A review of current CANTRAC course information and of other information on the status of IT-related courses shows that the majority of IT graduates are obtained from one of the 14 courses listed in table 1. The projected and actual throughput figures provided for each course reflect current information extracted from pertinent data base files.

TABLE 1. PREDOMINANT NAVEDTRACOM IT-RELATED COURSES

Course No.	Course Title	Projected Annual Throughput NITRAS Data (1980) Planned	/Actual
A-5K-0001	Instructor Basic	167	182
A-012-0011	Instructor Basic	4,386	3,842
A-012-0023	Instructor Shipboard	500	415
A-012-0031	Technical Curriculum Development	98	91
A-7B-0010	Navy Schools Management	132	44
A-012-0012	Learning Center Instructor	560	162
F-00-0014	Officer Instructor Indoctrination	35	18
A-012-0036	Individualized Instruction Techniques	109	24
A-012-0037	Recruit Company Commander	418	413
A-7C-0024	LMET Instructor	112	99
A-7C-0019	HRMS--Instructor	256	145
C-100-3194	Module Repair Instructors Training	152	0
Q-5K-0101	Instructor Training Academic	Unk	389
Q-2B-0010	Instructor Training Flight	Unk	389

IT PROGRAM OF INSTRUCTION--UNDER DEVELOPMENT (CONTRACT). The NAVEDTRACOM is currently developing, under contract, an IT system to consist of several tracks (courses). As each track from that new system is implemented, it will replace portions of the existing system.

In describing this new system, it must be emphasized that a precise definition of the various course lengths, student-instructor ratios, throughputs, and other system characteristics is not possible. The information which follows is based on the best estimate available at this time. However, since these estimates are used to evaluate all centralization alternatives (which are based on this new system) the effect of any errors will be uniformly applied and will have minimal impact on the relative ranking of alternatives.

It is anticipated that the new IT system being developed under contract will be composed of modules of instruction that will form five primary tracks:

.   Group-paced Instructor Training

.   Self-paced Instructor Training

.   Shipboard Instructor Training

.   Curriculum Development

.   Management of Training.

A final list of learning objectives for each of these tracks was not available for this study. However, it is possible to anticipate from current course offerings much of the information which logically would be included in each track.

Figure 1 illustrates the probable relationships between the current courses and new tracks under contract.

PROSPECTIVE CHANGES TO IT PROGRAM OF INSTRUCTION. This study considers three possible changes to the current and/or contracted IT programs of instruction. These include the consolidation of IT and LMET, the consolidation of CC and IT, and the addition of a Senior Officer Training Management Course (SOC).

Consolidation of LMET and IT. The CNO has committed the support of his office to impoving the leadership and management capabilities of Navy officers and petty officers. Courses emphasizing the instruction and practice of techniques and procedures supporting capable leadership and management have been instituted as requirements for senior petty officer and junior officer personnel assigned to sea billets. Efforts are now underway to extend LMET to personnel assigned to shore duty with emphasis on the preparation of "A" school instructors and Recruit CCs. When it is implemented as a requirement, the 2-week LMET course for instructor and CC personnel could logically be taught as part of a total IT package.

Consolidation of Company Commander Training and Instructor Training. As part of his continuing review of Navy Recruit Training, the CNET has initiated a task to study the feasibility of centralizing Recruit CC training. Only common training, now provided to prospective CCs at individual RTCs, would be

centralized; each RTC would continue to provide site-specific orientation.
Since the RTC CCs normally complete the IT program as part of their preparation
for CC duty, it is logical to consider consolidating this common training
with the IT program of instruction for designated CCs.

Current Courses (Representative Base)	Proposed Tracks
Instructor Basic Instructor Indoctrination Officer LMET/Instructor HRMS/Instructor Recruit Company Commander	Group-paced Instructor
Learning Center Instructor Individualized Instruction Techniques (IIT)*	Self-paced Instructor
Instructor Shipboard	Instructor Shipboard
Navy Schools Management Course	Training Management
Technical Curriculum Development Individualized Instruction Techniques*	Curriculum Development

*Portions of the IIT course may be placed in either of these tracks.

Figure 1.   Relationship Between Current Courses
and New Tracks Under Contract

Senior Personnel Training Management Preparation.   Concern has been and is now
being voiced about the lack of preparation for senior management personnel who
will assume positions of major responsibility within the training command.
Training management may be different in organization, policy, procedure, and
environment from the kind of management inherent in operational and other
staff billets. Therefore, some formal means of preparing senior management
personnel, particularly those assigned to their initial billet in the NAVED-
TRACOM, is considered a legitimate part of the IT process.

Certainly, in specific instances, such preparation does take place. The
orientation seminar for NROTC commanding officers/executive officers has already
been noted. That course provides information on special reporting requirements
and specific administrative concerns, and discusses nonoperational areas such as
the relationship between the Navy and higher education.

Preliminary analysis indicates that a relatively short course of no more
than 2 weeks for a relatively small throughput of about 80 senior officers each
year would satisfy this need. This throughput is based on the number of senior
(05 and above) billets throughout NAVEDTRACOM and the projected tour lengths of
officers assigned to those billets. Although some of the topical material
contained in modules of the training management track of the proposed IT system

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would be appropriate, the SOC will be specifically oriented to needs of senior officers. Appendix B provides more detailed information about this proposed course and includes a list of topics suggested for inclusion.

MODIFIED PROGRAMS OF INSTRUCTION. To accommodate study constraints and to allow for prospective changes in the eventual IT program of instruction (e.g., IT-LMET consolidation), two modified programs of instruction are postulated for use in developing siting alternatives. The first is based on the current IT program of instruction; the second is based on the program of instruction currently being developed under contract.

Modified "Current" Instructional Program. This instructional program consists of most of the courses included in the current IT program, shown in table 1, page 15. Because CNATRA-sponsored IT courses are not considered in this study the last two courses shown in table 1 (Q-5K-0101 and Q-2B-0010) are not included. Additionally, course C-100-3194, Module Repair Instructors Training, was not convened at any location during the past year despite its projected annual throughput of 152. It is offered only on an "as-needed" basis and has been eliminated from consideration.

The two Instructor Basic courses (A-5K-0001 and A-012-0011) have been combined in the proposed alternatives. Although not precisely equivalent, these courses are similar enough that their combination does not negatively affect the training objectives. Because LMET will be required for "A" school instructors and RTC CCs, the current program of instruction has been modified to include LMET in all IT centralization alternatives. However, no separate CC or SOC training has been included.

Table 2 summarizes the modified current instructor training program. LMET has been added to appropriate courses. Projected annual throughputs for each course were obtained from available CNTECHTRA data and used as obtained with the following exceptions:

- The technical development course throughput has been increased to reflect an expected increase in the demand for personnel trained in this area.

- The Human Resource Management (HRM) course throughput has been reduced to reflect the approximate number of HRM graduates who will actually perform as instructors, rather than the number that would include those used for counseling, program management, or similar billets.

Staffing requirements, including both instructor and support staff personnel, were determined by applying the formulas contained in CNETINST 5311.1.[7] Student-to-instructor ratios and course lengths were obtained from appropriate files in the NITRAS data base; throughputs were those established for each of the representative courses. A 40-hour work (training) week was assumed for all computations. The computed staff requirements for representative courses using this procedure were not significantly different from the number of billets already assigned to courses now in place. Staffing requirements for each alternative are presented in section III.

[7]CNETINST 5311.1 of 18 July 1979, subj: Specialized Training Staffing Requirements; computation of

TABLE 2. THE MODIFIED "CURRENT" IT CURRICULUM PACKAGE

Course Title	Projected (Scenario) Annual Throughput
Instructor Basic (including LMET)	4,620
Instructor Shipboard	504
Technical Development	142
Navy Schools Management	132
Learning Center Instructor (including LMET)	447
Officer Instructor Indoctrination	35
Individualized Instruction Techniques	91
LMET Instructor	112
HRM Instructor	30
Recruit Company Commander (including LMET)	378
TOTAL	6,491

TABLE 3. ANNUAL THROUGHPUT PROJECTIONS FOR THE PROPOSED NAVY IT SYSTEM

Track	Provided Annual Throughput
Group-paced[1,2]	4,500
Self-paced[1]	538
Shipboard	500
Technical Development	150
Training Management	200
Senior Officer Training Management Course (SOC)	80
Total	5,968

[1]Includes 2-week LMET blocks of instruction

[2]Includes 2 weeks of additional common-core training for CC designates

Modified "Contract" Instructional Program. The modified contract program will consist of the five curriculum tracks currently under development and LMET, CC, and SOC. Table 3 shows the contract program and its projected throughputs. The total annual throughput of the contract instructional program (5,968) is less than that of the current program (6,491) because courses will be consolidated in the instructional program being developed under contract.

SITE SELECTION

The selection of alternative sites for IT training considered the following factors:

. current sites

. geographic location

. travel

. training support opportunities

. political implications.

CURRENT SITE STATUS. The Navy's formalized programs of IT are currently located at 10 sites. Using the representative IT courses identified in table 2 as entries, table 4 identifies where the formal IT is now being offered in the NAVEDTRACOM. Informal IT takes place at most NAVEDTRACOM activities offering education or training programs of instruction. This training does not represent large throughputs and has been excluded from the analysis.

GEOGRAPHIC LOCATION. Of most immediate concern in any review of site selection is where the IT sites will be located. As an example, if a single site were to be considered, it would be logical to locate it at or near the center of the geographic region being served. Similarly, if a two-site scenario were being prepared, some geographic balance would be reasonable.

In addition, consideration was given to the proximity of IT sites to either schools or operational units. Although the IT curriculum itself does not require the existence of seagoing surface or subsurface platforms for practical training, the bulk of the personnel to be trained will come from duty on or in support of such platforms; thus, it is logical to provide IT at or near such locations. In developing alternative site combinations, the availability of facilities--for instruction, logistic support, messing, and berthing--is a factor of major importance.

TRAVEL. The increase in fuel costs during the past several years has had substantial impact on the costs associated with travel between duty stations. This impact must be considered in any review of siting alternatives. A single IT site, for example, dictates that the vast majority of students will be required to travel some distance; the increased travel costs may offset other cost savings achieved from centralization. Conversely, a more decentralized siting concept would reduce travel requirements, and thus costs, but require greater expenditures for facility operation and staffing.

TABLE 4. CURRENT INSTRUCTOR TRAINING SITES AND COURSES

Site	Course Title	Command	Annual Projected Throughput	Remarks
New London, CT	Instructor Basic	SUBSCOL	270	Primarily
	Instructor Shipboard	SUBSCOL	125	Submarine
	Officer Instructor	SUBSCOL	35	Oriented
Great Lakes, IL	Instructor Basic	SSC	799	
	Learning Center Inst	SSC	172	
	Individualized Inst. Tech.	SSC	41	
	Recruit Company Commander	RTC	143	
San Diego, CA	Instructor Basic	SSC	1,229	
	Technical Development	SSC	72	
	Learning Center Inst.	SSC	74	
	Recruit Company Commander	RTC	108	
Bangor, WA	Instructor Basic	TRITRAFAC	275	
Pearl Harbor, HI	Instructor Shipboard	FLTRAGRU	128	
Newport, RI	Instructor Basic	NETC	252	Primarily Officer Inst. Trng.
Charleston, SC	Technical Development	FAMWTC	12	
Orlando, FL	Recruit Company Commander	RTC	116	
Memphis, TN	Instructor Basic	NATTC	579	
	Navy Schools Management	NATTC	44	
	Learning Center Instructor	NATTC	91	
	Individualized Instructor Techniques	NATTC	17	
	LMET Instructor	HRMS	112	Estimated
	HRM Instructor	HRMS	30	Estimated
Norfolk, VA	Instructor Basic	FTC	1,222	
	Instructor Shipboard	FTC	251	
	Technical Development	FTC	143	

TRAINING SUPPORT OPPORTUNITIES. The support of any system of training is an extensive and diversified endeavor. In addition to such obvious examples as administrative staffing and program management, training support also encompasses curriculum review and revision, testing and evaluation, and the establishment and maintenance of instructional standards. Site consolidation implies greater potential for management control, standardization of curriculum, evaluation of product, and ease of curriculum/program maintenance. There may be negative effects of centralization such as the inability of a large centralized structure to respond to individual activity needs. Both positive and negative effects must be evaluated in a centralization proposal.

TAEG Report No. 38 lists a series of items associated with training support that should be considered in any evaluation. These items include:

- standardization of curricula and instruction

- utilization of instructor skills

- curriculum revision and implementation

- instructor selection process

- training equipment and instructional aids

- administrative coordination

- civilian career programs

- inservice training

- research capability

- instructor evaluation

- record keeping

- response to individual needs

- response to specific program, course, or location needs.

NAVY INSTRUCTOR CAREER PROGRAM

CNET has proposed that a career plan be developed for Navy instructors to encourage enlisted personnel to consider assignment to instructor duty during normal shore tours.[8] Presently, many instructors are nonvolunteers and lack motivation for their instructor assignment. In addition, a significant number of instructors are initially assigned late in their careers and use the assignment as a stepping stone to retirement.

[8]CNET ltr Code N-51, subj: Navy Instructor Career Program (NICP) of 29 Feb 80.

Lack of an instructor career training plan has contributed to: (1) a lack of qualified instructors to perform duties requiring previous training experience, (2) poor utilization of manpower because instructor training may be used only once, (3) less experienced instructors, and (4) potential adverse impact on students. The proposed instructor career plan would identify potential instructors early in their career and allow selected Navy personnel to serve three instructor tours prior to completion of 20 years service.

The first instructor tour would provide grounding in practical classroom/ laboratory instruction and the utilization of basic instructional media. It would result in the assignment of NEC-9502, Instructor, or NEC-9501, Learning Center Supervisor. During his second instructor tour ashore, the incumbent would complete a different phase of formal instructor training such as technical development or individual learning systems. Upon approval of his/her commanding officer, this might result in the assignment of Master Instructor or Instructional Technologist with a NEC-95XX (yet to be determined).

Upon completion of the third fleet tour, the incumbent might attend the management track of instructor training. This third tour would be one in management, or as a Contracting Officer Technical Representative (COTR). If the trend toward contract instructors continues, the role of COTR may be critical for future assignments.

It is expected that approval of the NICP concept by CNO would enhance the instructor career field of the Navy. However, the adoption of a career plan for instructors by CNET is not expected to have any significant impact on the location costs of instructor training.

CONTRACT INSTRUCTORS FOR TRAINING

During the final adjustment of the Navy Program Objective Memorandum for fiscal year 1980, a 526 enlisted instructor billet reduction was levied against the CNET. To compensate for this, $14.2 million was programmed to contract for instructors to conduct Navy specialized skill training. To prepare for this major impact on NAVEDTRACOM, the CNET established a task group to prepare initial plans and options for the contracting of instructor services. The findings of the CNET task group were approved by the CNET and endorsed by CNTECHTRA. These findings are summarized as follows:

. CNTECHTRA would be the principal functional command concerned with contract instructors

. public, nonprofit, state supported institutions would be the principal source for contracted instructors

. commercial sources would be the principal source of contracting maintenance services, and

. the CNTECHTRA would be allowed flexibility in the final mix and assignment of contract support (instructors and maintenance services).

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As outlined in NAVMATINST 4860.12A, the general policy of the Government has been to rely on competitive private enterprise to supply the products and services it needs. This policy was promulgated in 1954 by DOD Directive 1100.4 which stipulates that civilian personnel (civil service or contract) will be used in positions which do not require military incumbents for reasons of law, training or combat readiness and which do not require a military background. This concept applies to Navy instructor training which prepares students to instruct in specialized courses.

During fiscal year 1980, the CNTECHTRA contracted for 445 instructors and their supervisors. Table 5 provides a breakdown of contract personnel assigned to Navy Instructor Training. The current fiscal year plan is to increase by 17 the total number of contract supervisors and instructors. This modest increase conforms to Congressional, Department of Defense, and Navy policy.

The first year's contracting effort has been evaluated by both CNTECHTRA and an independent activity. While some parochial views were expressed, the general opinion reported by Navy managers was that the use of contract instructors had met its objectives. In a number of cases instruction has been improved. In addition, this use of contract instructors had permitted the Navy to improve Petty Officer manning in the Fleet.[9]

While it is not the intent of the Navy to man any given specialized training activity with all civilian (civil service or contract) personnel, the use of contract instructors can be expected to continue. This study will estimate the costs of using military, civil service, and contract personnel in each alternative.

MOBILE TEAMS FOR INSTRUCTOR TRAINING

The use of mobile instructor teams to prepare personnel for instructor or training management duty is not a new concept for the military services. During and after World War II and the Korean conflict, mobile teams were used to teach instruction techniques to people stationed at small posts or bases across the country. Additionally, joint service instructor teams traveled widely, preparing personnel for assignment as instructors in junior and senior ROTC units. Today, the use of mobile teams for IT continues but on a more ad hoc basis. Also, mobile teams are now frequently called upon to provide preparation in curriculum development and other training support areas.

Historically, IT mobile teams have been composed of instructors drawn from a formal IT activity and used on a temporary basis to serve some specific purpose. In developing alternatives for cost analysis, both this traditional type of mobile team and the establishment of a "permanent" mobile team capability as an integral part of the IT system were considered.

The benefits and shortcomings of using mobile teams are fairly well established. Because mobile teams operate from a central location, curriculum standardization and consistency in evaluation are enhanced; control of course

[9] CNO OP-01 Memorandum for Chief of Naval Operations, Subj: Reduction in the Training Pipeline Backlog of 15 Jan 81

TABLE 5. FISCAL YEAR 1980 INSTRUCTOR CONTRACTS SUPPORTING INSTRUCTOR TRAINING

Course Title	Course Number	Number of Instructors-Supervisors by Location	
		Great Lakes	San Diego
Instructor Basic	A-012-0011	7-0	13-1*
Individualized Instruction Techniques	A-112-0036	2-0	
Learning Center Instructor	A-012-0012	1-1*	
Technical Curriculum Development	A-012-0031		1-0

* Contract supervisors are responsible for all contractor instructors involved with instructor training. In some cases, a single supervisor is responsible for a number of Navy schools or courses. The use of a contract supervisor conforms with Defense Acquisition Regulation and Code of Federal Regulations.

content and presentation is also increased. Conversely, because the teams move into and out of a given situation, local, site specific needs may not be fully addressed; follow-up efforts which may be required are more difficult to justify, particularly if additional travel expenditures become necessary.

If the intent of the IT program is to prepare personnel through formally constituted classes or tracks, then only unusual or situation-specific events would require the use of a mobile team. When provided on an ad hoc basis, it is anticipated that the use of mobile teams would be about the same for all alternatives. However, if the concept of an integrated and permanent mobile team capability is implemented as a part of the IT program, then mobile team costs among the alternatives may vary. A single site would probably require the maximum use of mobile teams and the highest costs. Use of mobile teams would decrease as decentralization of sites increased, with a commensurate decrease in the cost of using and maintaining the mobile teams. Alternatives developed for this study assume that mobile teams would be used on an ad hoc basis only and that costs would not differ significantly among the alternatives.

SECTION III

DESCRIPTION OF CENTRALIZATION ALTERNATIVES

This section describes the nine centralization alternatives selected for detailed analysis. The alternatives were selected after consideration of the factors identified in section II of this report. Each alternative and its supporting organizational structure is described separately. The IT instructional program which appears in alternatives I, II, and III is the modified "current" instructional program outlined in section II; the program of instruction for alternatives IV through IX is the modified "contract" instructional program also described in section II. Course and personnel information was derived using data from on-line NAVEDTRACOM management information systems; staffing requirements were determined using CNTECHTRA staffing formulas. Each organizational structure reflects anticipated needs and takes into consideration any historical staffing precedents which may have existed at an individual site. All organizational structures were developed using the same criteria; a diagram of each structure is found in appendix C.

ALTERNATIVE I: MAINTAIN CURRENT INSTRUCTIONAL PROGRAM AT NINE SITES

Tables 6 and 7 define the first alternative selected for detailed analysis. With minor exceptions, it essentially describes the status quo and provides a baseline against which to compare other alternatives. Table 6 describes those courses that comprise most of the IT system now in place within NAVEDTRA-COM. The sites assigned are those now in use, with the single exception of the Technical Development course offered at Fleet Mine Warfare Training Center (FMWTC), Charleston, South Carolina. That course had a throughput of only 12 per year and was the only IT-related course offered at Charleston. This study proposes that formal IT courses no longer be offered at the Charleston site. The Charleston site was not included in any of the alternatives selected for detailed analysis. The course lengths for all instructor training basic (ITB) courses include an additional 2 weeks beyond the normal ITB requirement to accommodate LMET.

Table 7 provides data on the combined instructor and staff manning levels for all courses at all sites shown in table 6. These data were obtained from questionnaire responses submitted by IT sites throughout the NAVEDTRACOM. Personnel assignments at most sites were usually expressed in fractions because they included other duties in addition to those associated with IT courses; the numbers shown in table 7 have been rounded to whole numbers.

ALTERNATIVE II: CENTRALIZE CURRENT INSTRUCTIONAL PROGRAM AT FIVE SITES

Alternative II assumes that current IT courses will be offered at five sites: two on each coast and one centrally located. The rationale for this configuration is based on the assumption that the use of fewer sites permits a greater degree of management control while maintaining course accessibility where the density of user activities is high. In order to minimize travel costs, those courses offered in only one location would be taught at the central site.

TABLE 6. CURRENT IT STRUCTURE (BASELINE)

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened
New London, CT	Instructor Basic	270	5	15
	Instructor Shipboard	125	2	8
	Officer Instructor Indoctrination	35	2.5	15
Great Lakes, IL	Instructor Basic	779	5.5	51
	Learning Center Instructor	172	1	51
	Individualized Instructor Techniques	41	3	4
	Recruit Company Commander	150	6	24
San Diego, CA	Instructor Basic	1,229	5.5	51
	Technical Development	72	1	24
	Learning Center Instructor	74	1	N/A
	Recruit Company Commander	108	5	15
Bangor, WA	Instructor Basic	275	5.5	12
Pearl Harbor, HI	Instructor Shipboard	128	2	12
Newport, RI	Instructor Basic	252	3	14
Norfolk, VA	Instructor Basic	1,222	5.5	40
	Instructor Shipboard	251	2	12
	Technical Development	70	1	12

TABLE 6. CURRENT IT STRUCTURE (BASELINE) (continued)

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened
Orlando, FL	Recruit Company Commander	120	4	14
Memphis, TN	Instructor Basic	573	5.5	25
	Navy Schools Management Course	143	1	10
	Learning Center Instructor	201	1	25
	Individualized Instruction Techniques	50	3	6
	Human Resources Management - Instructor	30	12	8
	Leadership Management Education and Training Instructor	112	12	5

TABLE 7.   INSTRUCTOR/STAFF ASSIGNMENTS FOR
CURRENT IT PROGRAM

Military Personnel	Number Assigned (Rounded)
O-4	2
O-3	5
O-2	2
O-1	0
E-9	5
E-8	9
E-7	22
E-6	19
E-5	9
E-4	0
E-3	1
E-2	1
Civilian Personnel	**Number Assigned (Rounded)**
GS-12	1
GS-11	1
GS-10	1
GS-9	7
GS-7	0
GS-5	1
GS-4	2
GS-3	1
Contractor Personnel	**Number Assigned (Rounded)**
Supervisory	4
Instructor	27

Table 8 includes pertinent course data for this alternative. All IT and CC training would be offered at the central Memphis site. The 3-week CC training would occur subsequent to ITB completion and would provide basic, generic information appropriate to all three RTCs.

Atlantic sites would be at Norfolk and New London; Pacific sites would be at San Diego and Bangor. The Bangor and New London facilities provide the option of special orientation training for instructors who will be assigned instructor duty in subsurface-warfare related billets. However, it is expected that nonsubmarine personnel also would be trained at these facilities on both coasts. Instructor training students from Newport would be accommodated at New London. The proximity of the New London and Newport sites justifies consolidation.

Because of its relatively low throughput, Pearl Harbor would be eliminated as an active site for West Coast IT-related courses. Training previously conducted at Pearl Harbor would be incorporated at either San Diego or Bangor. Special conditions might dictate the use of mobile teams on an as-needed basis for Pearl Harbor activities, but the 128 students now slated for IT there would normally be accommodated elsewhere.

Figures C-1, C-2, and C-3 (appendix C) provide instructor and staff requirements for the sites included under this alternative. Personnel requirements for all alternatives were established using formulas prescribed in CNETINST 5311.1. A 40-hour training week is used in computation for all courses. Instructional sections and instructor periods are derived using the major multiple student-instructor ratios found in pertinent course descriptions.

The organization charts depicted in figures C-1, C-2, and C-3 have been developed to illustrate the computed staffing and instructor allowances. They represent a sample organizational structure which could support the administration of the proposed instructor training effort.

ALTERNATIVE III: CENTRALIZE CURRENT INSTRUCTIONAL PROGRAM AT THREE SITES

Alternative III would provide IT at Memphis, San Diego, and Norfolk. Essentially, this alternative retains the same seven course offerings at Memphis as alternative II and consolidates all other IT at a single site on each coast. Management and curriculum control and standardization would be increased. Table 9 provides descriptive data for this alternative. The sample organizational structure for Memphis would remain as illustrated in figure C-1 (appendix C). A sample organizational structure for IT at San Diego and Norfolk is illustrated in figure C-4 (appendix C).

ALTERNATIVE IV: CENTRALIZE CONTRACT INSTRUCTIONAL PROGRAM AT A SINGLE SITE

Alternatives IV through IX are based on the modified "contract" IT instructional program outlined in section II. Data describing course length, content, and similar characteristics for the contract instructional program were limited but, where such data were available, they were used in specifying the alternatives.

TABLE 8. CURRENT IT SYSTEM AT FIVE SITES

Site Location	Course Title	Annual Throughput	Course Length (wks)	No. Classes Convened	Instructor	Staff
Memphis, TN	Instructor Basic	1,372	5.5	55	14	
	Navy School Management Course	143	1	6	1	
	Learning Center Instructor	373	1	15	1	
	Individualized Learning Techniques	91	3	6	2	9
	Recruit Company Commander	378	6	16	3	
	Human Resources Management - Instructor	30	12	4	2	
	LMET - Instructor	112	12	7	6	
Norfolk, VA	Instructor Basic	1,222	5.5	50	12	
	Instructor Shipboard	251	2	10	2	6
	Technical Development	70	1	3	1	
San Diego, CA	Instructor Basic	1,229	5.5	50	12	
	Instructor Shipboard	64	2	3	1	
	Technical Development	72	1	3	1	
	Learning Center Instructor	74	1	3	1	
New London, CT	Instructor Basic	522	5.5	21	5	
	Instructor Shipboard	125	2	5	1	4
	Officer Instructor Indoctrination	35	4.2	2	1	
Bangor, WA	Instructor Basic	275	5.5	12	3	
	Instructor Shipboard	64	2	3	1	

TABLE 9. CURRENT IT SYSTEM AT THREE SITES

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
Norfolk, VA	Instructor Basic	1,744	5.5	70	17	
	Instructor Shipboard	376	2	16	2	
	Officer Instructor Indoctrination	35	412	2	1	7
	Technical Development	70	1	3	1	
San Diego, CA	Instructor Basic	1,504	5.5	61	15	
	Instructor Shipboard	128	2	6	1	
	Technical Development	72	1	3	1	
	Learning Center Instructor	74	1	3	1	7
Memphis, TN	Instructor Basic	1,372	5.5	55	14	
	Navy Schools Management Course	143	1	6	1	
	Learning Center Instructor	373	1	15	1	
	Individualized Learning Techniques	91	3	6	2	
	Recruit Company Commander	378	6	16	3	
	Human Resources Management - Instructor	30	12	4	2	
	LMET - Instructor	112	12	7	6	9

The content of the current and the contract instructional programs is essentially the same. The major difference between the two programs is that the contract program will have fewer tracks (i.e., courses), but each track will require more contact time. For example, the proposed group-paced track, which would probably replace most of the current Instructor Basic courses, is estimated to last 5 weeks vice 3.5 for the present course. The self-paced track is also estimated to last 5 weeks. When LMET is added, both these tracks will increase to 7 weeks. (Instructor/staff computation was based on 7 weeks.) Additional time must also be added for CC common training for those students en route to CC billets. The estimated additional time for CC common training is 2 weeks, based on the assumption that the expanded Instructor Basic and the new LMET would incorporate part of what is currently offered as CC training. Under the contract IT program, both LMET and CC common training have been integrated with other IT requirements and all training is offered as a consolidated package.

In alternatives IV through IX, the SOC is also included as part of the IT program. This course is designed for senior management personnel and was described in section II of this report. It is proposed that this course be offered at a single command site because of its low throughput and the need to draw on incumbent senior officers as instructors.

Table 10 provides data on IT contract program instructional tracks under the assumption that all IT is offered at a single site. Figure C-5 (appendix C) provides a sample organizational structure in support of this single site concept. In general, grade levels for this organization are somewhat higher than those currently established at any site. Instructor allocations have been made using all military personnel.

ALTERNATIVE V: CENTRALIZE CONTRACT INSTRUCTIONAL PROGRAM AT TWO SITES

The scenario presented as alternative V is predicated on the establishment of dual sites and the offering of all primary tracks at each site. Throughputs are based on the probable demands of user activities in the respective areas; mid-continent support would probably be greatest from the Atlantic coast. Special conditions exist for the SOC and the track for prospective CCs; both of these would be offered at only a single site. As has been indicated, the SOC might be most effective if offered at a command location. Table 11 and figures C-6 and C-7 (appendix C) provide data on the tracks to be offered at the two locations--San Diego and Norfolk--and suggested organizational structures.

ALTERNATIVE VI: CENTRALIZE CONTRACT INSTRUCTIONAL PROGRAM AT THREE SITES

Alternative VI provides a three-site centralization scenario analogous to alternative III, but based on the contract instructional program. As before, this arrangement consolidates all tracks of IT in a single site on each coast and at a central location. Memphis was chosen as the central site and San Diego and Norfolk were chosen as the coastal locations. Training which would be offered at only one site (e.g., CC training) would be provided at the centrally located site in Memphis.

TABLE 10. CONTRACT IT SYSTEM AT SINGLE SITE

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
Memphis, TN	Senior Officer Training Management Course	80	2	4	1	
	Training Management Track	200	2	8	2	
		4,122	7	165	70	23
	Group-Paced Track (plus LMET)	378	9	16	9	
	Group-Paced Track (plus LMET and CC training)	538	7	22	12	
	Self-Paced Track (plus LMET)	150	3	6	1	
	Technical Development Track	500	2	20	3	
	Instructor Shipboard Track					

TABLE 11. CONTRACT IT SYSTEM AT TWO SITES

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
SAN DIEGO, CA	Training Management Track	80	2	4	1	
	Group-Paced Track (plus LMET)	1,400	7	56	24	
	Self-Paced Track (plus LMET)	160	7	7	4	9
	Technical Development Track	75	3	3	1	
	Instructor Shipboard Track	125	2	5	1	
NORFOLK, VA (Alternate: Memphis)	Senior Officer Training Management Course	80	2	4	1	
	Training Management Track	120	2	5	1	
	Group-Paced Track (plus LMET)	2,722	7	109	46	
	Group-Paced Track (plus LMET and CC)	378	9	16	9	
	Self-Paced Track (plus LMET)	378	7	16	9	17
	Technical Development Track	75	3	3	1	
	Instructor Shipboard Track	375	2	15	2	

Table 12 provides the specific track data for all three sites; figures C-8, C-9, and C-10 (appendix C) illustrate organizational structures for each site.

ALTERNATIVE VII: CENTRALIZE CONTRACT INSTRUCTIONAL PROGRAM AT FIVE SITES

Alternative VII would expand each coastal site to two locations and retain the single central site for a total of five sites. As in alternative II, the sites established for this scenario are San Diego and Bangor on the Pacific coast, Norfolk and New London on the Atlantic coast, and Memphis for the central site. The SOC and CC training are offered only at the central site. Table 13 provides data on the track offerings at each site; figures C-11. C-12, and C-13 (appendix C) provide sample organizational structures in support of this scenario.

ALTERNATIVE VIII: CENTRALIZE CONTRACT INSTRUCTIONAL PROGRAM AT SIX SITES

Alternative VIII would expand the Pacific coast training sites to three, providing IT courses at Pearl Harbor in addition to the two sites maintained at San Diego and Bangor. All sites and throughputs for other areas of the country remain the same as specified in alternative VIII. Table 14 shows the site locations and course offerings at each location.

The staffing for Memphis, Norfolk, San Diego, and New London remains as shown in figures C-11, C-12, and C-13 (appendix C). Figure C-14 illustrates an organizational structure that might be applied to Bangor and Pearl Harbor under this alternative.

ALTERNATIVE IX: THE CONTRACT INSTRUCTIONAL PROGRAM AT NINE SITES

This alternative describes an IT system based on the modified contract curriculum and offered at those nine primary sites established as a baseline for comparison in alternative I. The "tracks" parallel the current courses now offered at each site. Where more than one course can be accommodated by a single track (e.g., group-paced track with LMET), the total throughput of those courses is used as the basis for instructor and staff computation. The higher instructor requirements are due to the increased length of course (track) offerings under the contract curricular system, the increased length causes a greater average on board (AOB) and the need for more concurrent classes to be offered. Table 15 contains the throughputs, instructor/staff requirements, and course lengths for each site.

A breakdown of possible instructor/staff billet assignments for this alternative are shown in table 16. Again, these numbers are higher than those expected for the modified current program of instruction shown in alternative I. No organizational structures have been suggested for this alternative; it is assumed that any added staff would be incorporated into current organizations.

TABLE 12. CONTRACT IT SYSTEM AT THREE SITES

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
SAN DIEGO	Group-Paced Track (plus LMET)	1,400	7	56	24	
	Self-Paced Track (plus LMET)	160	7	7	4	9
	Technical Development Track	75	3	3	1	
	Shipboard Track	125	2	5	1	
NORFOLK	Group-Paced Track (plus LMET)	1,750	7	70	30	
	Self-Paced Track (plus LMET)	98	7	4	3	13
	Technical Development Track	75	3	3	1	
	Shipboard Track	375	2	15	2	
MEMPHIS	Senior Officer Training Management Course	80	2	4	1	
	Training Management	200	2	8	2	
	Group-Paced Track (plus LMET)	972	7	39	17	10
	Group-Paced Track (plus LMET & CC)	378	9	16	9	
	Self-Paced Track (plus LMET)	280	7	12	7	

TABLE 13. CONTRACT IT SYSTEM AT FIVE SITES

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
BANGOR, WA	Group-Paced Track (plus LMET)	275	7	11	5	
	Instructor Shipboard Track	125	2	5	1	4
NEW LONDON, CT	Group-Paced Track (plus LMET)	522	7	21	9	
	Instructor Shipboard Track	125	2	5	1	4
SAN DIEGO, CA	Group-Paced Track (plus LMET)	1,153	7	47	20	
	Self-Paced Track (plus LMET)	160	7	7	4	
	Technical Development Track	50	3	2	1	
	Instructor Shipboard Track	125	2	5	1	8
NORFOLK, VA	Group-Paced Track (plus LMET)	1,200	7	48	20	
	Self-Paced Track (plus LMET)	98	7	4	3	
	Technical Development Track	50	3	2	1	
	Instructor Shipboard Track	125	2	5	1	7
MEMPHIS, TN	Senior Officer Training Management Course	80	2	4	1	
	Training Management Track	200	2	8	2	
	Group-Paced Track (plus LMET)	972	7	39	17	
	Group-Paced Track (plus LMET & CC)	378	9	16	9	
	Self-Paced Track (plus LMET)	280	7	12	7	
	Technical Development Track	50	3	2	1	10

TABLE 14. CONTRACT IT SYSTEM AT SIX SITES

Location	Course Title	Annual Throughput	Course Length (wks)	No. Classes Convened	Instructor	Staff
Pearl Harbor, HI	Group-Paced Track (plus LMET)	200	7	8	4	
	Instructor Shipboard Track	100	2	4	1	3
New London, CT	Group-Paced Track (plus LMET)	522	7	21	9	
	Instructor Shipboard Track	125	2	5	1	4
San Diego, CA	Group-Paced Track (plus LMET)	1,128	7	46	20	
	Self-Paced Track (plus LMET)	160	7	7	4	8
	Technical Development Track	50	3	2	1	
	Instructor Shipboard Track	100	2	4	1	
Norfolk, VA	Group-Paced Track (plus LMET)	1,200	7	48	20	
	Self-Paced Track (plus LMET)	98	7	4	3	7
	Technical Development Track	50	3	2	1	
	Instructor Shipboard Track	125	2	5	1	
Memphis, TN	Senior Officer Training Management Course	80	2	4	1	
	Training Management Track	200	2	8	2	
	Group-Paced Track (plus LMET)	972	7	39	17	
	Group-Paced Track (CCs) (plus LMET)	378	9	16	9	10
	Self-Paced Track (plus LMET)	280	7	12	7	
	Technical Development Track	50	3	2	1	
Bangor, WA	Group-Paced Track (plus LMET)	100	7	4	2	3
	Instructor Shipboard Track	100	2	4	1	

TABLE 15. CONTRACT IT SYSTEM AT CURRENT (BASELINE) SITES

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
New London, CT	Group-Paced Track (plus LMET)	305	7	13	6	4
	Instructor Shipboard Track	125	2	5	1	
Great Lakes, IL	Group-Paced Track (plus LMET)	779	7	32	14	7
	Group-Paced Track (plus LMET & CC)	150	9	6	4	
	Technical Development Track	41	3	2	1	
	Self-Paced Track (plus LMET)	172	7	7	4	
San Diego, CA	Group-Paced Track (plus LMET)	1,229	7	50	21	8
	Group-Paced Track (plus LMET & CC)	108	9	5	3	
	Technical Development Track	72	3	3	1	
	Self-Paced Track (plus LMET)	74	7	3	2	
Bangor, WA	Group-Paced Track (plus LMET)	275	7	11	5	3
Pearl Harbor	Instructor Shipboard Track	128	2	6	1	1

TABLE 15. CONTRACT IT SYSTEM AT CURRENT (BASELINE) SITES (continued)

Site Location	Course Title	Annual Throughput	Course Length(wks)	No. Classes Convened	Instructor	Staff
Newport, RI	Group-Paced Track (plus LMET)	252	7	11	5	3
Norfolk, VA	Group-Paced Track (plus LMET)	1,222	7	49	21	7
	Instructor Shipboard Track	251	2	10	1	
	Technical Development Track	70	3	3	1	
Orlando, FL	Group-Paced Track (plus LMET & CC)	120	9	5	3	2
Memphis, TN	Group-Paced Track (plus LMET)	715	7	29	13	7
	Training Management Track	143	2	6	1	
	Senior Officer Training Management Course	80	2	4	1	
	Self-Paced Track (plus LMET)	251	7	10	6	

TABLE 16.   INSTRUCTOR/STAFF BILLET REQUIREMENTS
FOR ALTERNATIVE IX

Site	Instructor	Staff	
New London	E7-2 E6-4 E5-1	03-1 02-1 GS11-1 GS4-1	
Great Lakes Norfolk Memphis	E8-4 E7-6 E6-8 E5-5 E5-4 (Memphis only)	04-1 03-1 GS12-1 GS4-2	E9-2
San Diego	E8-5 E7-6 E6-10 E5-6	04-1 03-1 GS12-1 GS4-2	E9-3
Bangor Newport	E8-1 E7-2 E6-2	03-1 GS11-1 GS4-1	
Orlando	E8-1 E7-2	03-1 E9-1 GS4-1	
Pearl Harbor	E7-1	E9-1	

SECTION IV

COST OF THE ALTERNATIVES

This section provides cost information for each of the nine alternatives postulated in section III. The alternatives are summarized as follows:

Modified Current Instructional Program

Alternative I (9 sites)
Alternative II (5 sites)
Alternative III (3 sites)   .

Modified Contract Instructional Program

Alternative IV (1 site)
Alternative V (2 sites)
Alternative VI (3 sites)
Alternative VII (5 sites)
Alternative VIII (6 sites)
Alternative IX (9 sites)

RELEVANT COST CATEGORIES

This part of the report defines relevant cost, the relevant cost categories, and outlines the techniques used to estimate the costs for each category. In comparing costs among the alternatives, only the "relevant" costs need to be considered. Relevant costs are those costs which exhibit "futurity" and "variability." Futurity describes costs that will be incurred in future time periods. Since each alternative is analyzed as though it were a new program, all costs are future costs. Cost variability describes costs that vary among the alternatives. For example, student and IT instructor costs differ among the alternatives because the throughputs and course offerings are different. Since these costs vary, they are considered relevant costs and are included in the analysis. Conversely, some overhead costs which do not vary are not relevant and, therefore, are not included. Relevant cost categories for this study include IT staff and instructors, students, facilities, student transportation, and per diem.

STAFF AND INSTRUCTOR COSTS. Costs included in this category are for IT instructors, education specialists, department heads, administrative officers, clerks, and secretaries. The numbers of staff personnel required for each alternative were formulated in the previous section.

The Navy life cycle billet cost models were used to compute costs of civil service and active duty military personnel. These models provide estimates of the total annual life cycle costs incurred by the Government to maintain the billet in question. Life cycle costs include pay, allowances, and benefits; e.g., health care, housing, food, training, and retirement. Table 17 shows the annual billet costs used in the study.

The contract instructors were valuated using actual contract costs currently being incurred in IT. These are also included in table 17. Contract instructors assigned to locations other than those listed in the table were assumed to cost the Government $30,000/year.

TABLE 17. LIFE CYCLE BILLET COSTS

The following costs represent the total cost in current dollars incurred by the Government to fill one billet or position per year:

ACTIVE DUTY:

06	$ 45,000	W4	$ 35,100*	E7	$ 25,400
05	39,500	W3	37,300*	E6	21,900
04	35,500	W2	35,500*	E5	19,300
03	29,800	W1	26,300	E4	15,900
02	25,600	E9	29,600	E3	12,700
01	18,200	E8	27,800		

CIVIL SERVICE:

13	$ 46,200	9	$ 27,600	5	$ 18,600
12	39,500	7	20,000	4	16,300
11	31,400	6	19,300	3	14,500

CONTRACT:

California	$ 32,500/man-year
Illinois	37,000
Mississippi	23,000
Tennessee	27,000

*These estimates reflect actual cost differences and are based upon fact. Items such as life cycle training and retirement expenditures have caused these reversals to occur.

STUDENT COSTS. Student costs were estimated using the Navy life cycle billet costing model. A small discrepancy exists when this model is used for estimating student billet costs. The model ostensibly includes as part of its estimates all the costs of training (including IT) incurred by the incumbent. In this study, IT costs are being projected by adding the nonstudent IT costs; e.g., buildings and staff, to the model estimates for the student billets. Consequently, some minor double accounting occurs. Instructor training costs are being counted once in our detailed accounting and a second time in the life cycle billet costing model.

However, the degree of double counting is minimal, probably totaling less than $100 per billet. This conclusion is based on several factors. First, the model does not perfectly account for all the IT costs; many are missed. Second, since IT courses train representatives of many ratings, the model spreads IT costs over all Navy personnel at the rate being trained. Third, the model amortizes all training costs (including IT) over the remaining career of the trainees. The effect of all three of these factors is to spread a portion of the IT costs among many service members and over a long period of time, thereby minimally affecting the annual billet cost estimates (table 17) used in this study.

FACILITY COSTS. The costs of facilities were based upon a standard cost (for each region) per student week (table 18). A standard cost may be based on lease, renovation, or new construction. For this study, the full service lease price; i.e., building and utilities, was used as the standard cost ($/ft^2). This price was then adjusted for geographic differences in cost by using statistics in the Consumer Price Index Detailed Report. Finally, IT school survey responses (appendix D) showed that the average IT school today uses 130 ft^2 per AOB. This datum allowed us to express the regional $/ft^2 facilities estimates in terms of $/AOB.

TABLE 18. ANNUAL COSTS FOR SCHOOL FACILITIES

San Diego, CA	$1,414 per AOB
Bremerton, WA	1,414
Orlando, FL	1,381
Memphis, TN	1,381
Charleston, SC	1,381
Great Lakes, IL	1,420
Groton, CT	1,461
Newport, RI	1,461

Source: Appraisal Branch, Real Estate Division, Naval Facilities Command

TRANSPORTATION COSTS. Alternatives I, II, and III are based upon the current IT program using different siting configurations. Alternatives IV through IX are based upon the IT program now under development which also would be offered under different siting configurations. Transportation costs were a major discriminating factor among alternatives I, II, and III (Modified Current IT Program) and among alternatives IV through IX (Modified Contract IT Program). The assumptions and procedures used to estimate the transportation costs are outlined below.

Transportation Assumptions. Assumptions made in calculating transportation costs were:

- All instructors will take IT en route from their previous permanent assignments to their new instructor assignments.

- The geographical pattern of previous assignments will continue as it was during 1978-80, with the exception that more instructors will be returning from sea duty through Naval Submarine Base, Bangor.

- The geographical pattern of instructors' new instructor assignments will remain relatively constant, with the exception that more instructors will be assigned to TRITRAFAC. (Instructor AOB at TRITRAFAC has been projected to be approximately 325.)

- The graduates of the IT system as a whole will be distributed in proportion to total instructor authorization throughout the various CNTECHTRA, COMTRALANT, and COMTRAPAC training activities. For example, assume that Norfolk was authorized 10 percent of the total instructors. If the entire IT system produced 4,000 new instructors annually, 400 of them would be assigned to Norfolk for duty.

- Overall transportation costs (from previous assignments to IT and then to new teaching assignments) will be minimized.

- Transportation will be by air.

Transportation Costing Procedures. The geographical pattern of the instructors' previous assignments was obtained by surveying a sample of about 10 percent of the instructors assigned to CNTECHTRA, COMTRALANT, and COMTRAPAC (appendix E). Seventeen reference points were selected to represent the location of IT students' previous assignments. Those not originating at a reference point were assumed to be from that reference point closest to the actual assignment. For example, instructors previously assigned to Annapolis, Maryland, were assumed to have come from Washington, DC.

Percentages of IT students originating at each reference point are shown in figure 2.

The locations of the instructors' new training assignments were derived from actual current assignments of instructors and CCs within CNTECHTRA, COMTRALANT, and COMTRAPAC. For purposes of computation, 15 reference

The 17 reference points for use as instructors' previous assignments, i.e. their last permanent assignment prior to instructor duty, are designated below. The numbers are the percentage of current instructors whose previous assignments were assumed to be these points.

GROTON
4%

LONDON
3%

NORFOLK
16%

NEWPORT
1%

CHARLESTON
8%

WASHINGTON
2%

ORLANDO
10%

PENSACOLA
1%

MEMPHIS
1.5%

CHICAGO
1%

CORPUS CHRISTI
4%

IDAHO FALLS
.5%

SAN DIEGO
24%

SEATTLE
5%

SAN FRANCISCO
7%

HAWAII
6%

JAPAN
6%
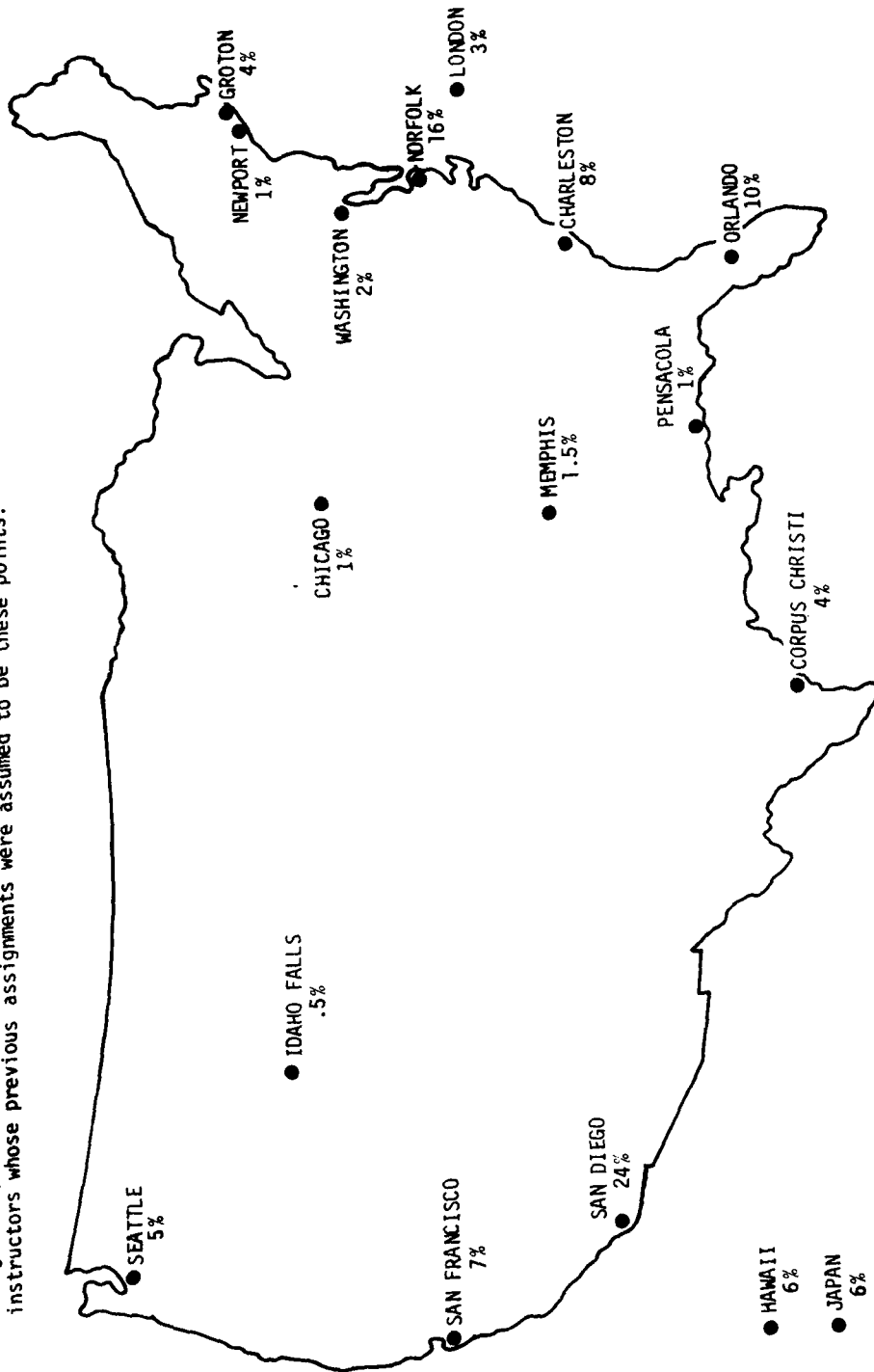
Figure 2. Geographic Distribution of Instructors' Previous Assignments

points were designated to represent instructor assignment sites. Instructors assigned to a training command which was not a designated point were assumed to be assigned to the reference point nearest their actual assignment. Percentage of student assignments represented by the reference points are illustrated in figure 3.

Given the assumptions, the annual IT throughputs, number of sites, and published air fares, an estimate of transportation costs was computed. The annual costs of transporting the IT students from their previous duty assignments to IT and then to their new instructor assignments are shown in table 19. As expected, transportation costs decrease as the number of sites increase.

TABLE 19. ANNUAL STUDENT TRANSPORTATION COSTS
FOR ALTERNATIVE IT SITES

Alternative	Costs ($1,000)
I (9 sites)	$ 1,146
II (5 sites)	1,369
III (3 sites)	1,534
IV (1 site)	2,792
V (2 sites)	1,511
VI (3 sites)	1,412
VII (5 sites)	1,185
VIII (6 sites)	1,041
IX (9 sites)	991

STUDENT PER DIEM COSTS. The Government's cost for per diem incurred en route during a permanent change in station (PCS) depends on the marital status of the recipient. If the student is single, the cost for per diem is approximately offset by the savings in housing allowance. Housing allowances are not paid to single people while TAD en route during a PCS. Consequently, the Government incurs no real net per diem cost for single IT students. However, married students receive per diem in addition to a housing allowance. Thus, the per diem costs for married students must be estimated.

The 15 reference points used as current instructors' assignments are designated below. The numbers represent the percentage of total instructor billets assumed to be located at the reference points.

GROTON
2%

NEWPORT
6%

NORFOLK
23%

CHARLESTON
3%

ORLANDO
8%

WASHINGTON
2%

PENSACOLA
3%

MEMPHIS
8%

CHICAGO
11%

CORPUS CHRISTI
1%

IDAHO FALLS
3%

SEATTLE
3%

SAN FRANCISCO
3%

SAN DIEGO
21%

HAWAII
3%
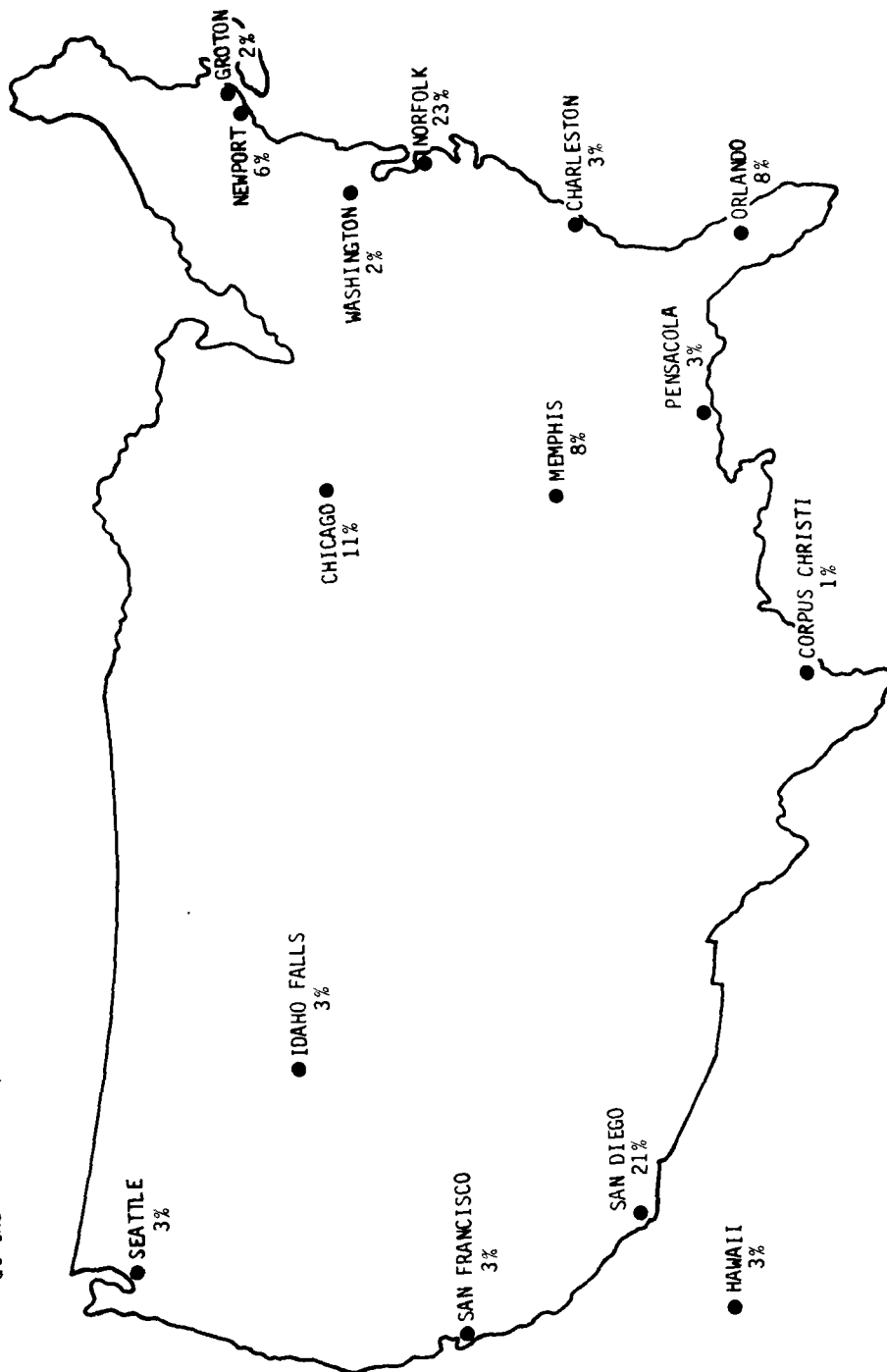
Figure 3. Geographic Distribution of Current Instructor Assignments

Per Diem Assumptions. Assumptions made in calculating per diem costs included:

. Half of the IT student population is married.

. Ninety-two percent of the IT students will receive per diem in the single site alternative. This assumption is based on the fact that approximately 8 percent of the instructor force is permanently assigned at Memphis and, therefore, would require no per diem.

. Twenty-three percent of the students would receive per diem with alternative IX (nine sites). An analysis of travel patterns shows that under this alternative, approximately 77 percent of the students will take IT at either their previous duty stations or their future instructor assignment.

. There is an inverse linear relationship between the percentage of the IT students receiving per diem and the number of sites.

The functional relationship between percentage of students receiving per diem and the number of sites is illustrated in figure 4. The function can be expressed as:

Percentage of students receiving per diem = 100.4 - (8.6 X number of sites).

This percentage was calculated for each alternative. It was then:

. reduced by half (to eliminate single instructors)

. multiplied by the total number of IT student weeks per year (31,540 for alternatives I through III and 37,500 for alternatives IV through IX)

. multiplied by $25 (the approximate weekly per diem for the typical IT student).

The resulting estimates are the relevant per diem costs to be included in the analysis. Table 20 shows these costs for each alternative.

SUMMARY OF COST RESULTS

The results of the cost analysis using military instructors are presented in table 21. It must be emphasized that the estimates are "relevant costs" and not total costs. The most useful cost data for comparison are found in the row titled "Changes in Cost." These estimates represent changes in annual cost that the Government would experience if IT were reorganized from the status quo.
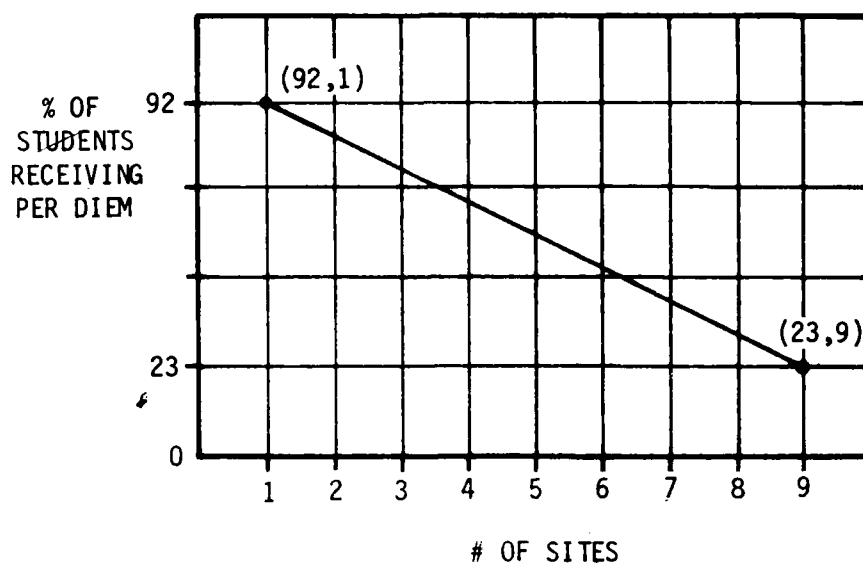
Figure 4.   Relationship Between Students Receiving
Per Diem and Number of Sites

TABLE 20.   ANNUAL PER DIEM COSTS

Alternative	Costs ($1,000)
I (9 sites)	$ 172
II (5 sites)	157
III (3 sites)	292
IV (1 site)	431
V (2 sites)	390
VI (3 sites)	346
VII (5 sites)	262
VIII (6 sites)	225
IX (9 sites)	106

Appendix F contains the instructor requirements for alternatives II through IX staffed with general schedule civil servants instead of active duty personnel. The relevant costs for each alternative that would be incurred using civil service staffing are presented in table 22. The use of civil service personnel increased staff costs by approximately 2 percent; total relevant costs increased by less than one percent.

The costs of contract civilian instructors supplied by local governments in place of the military instructors were also estimated (table 23). Use of contractors would result in staff costs approximately 16 percent greater than those incurred with active duty instructors, and total relevant costs would be approximately 3 percent greater than those incurred with active duty instructors.

TABLE 21.   ANNUAL RELEVANT COSTS WITH MILITARY INSTRUCTORS FOR IT ALTERNATIVES ($1,000)

	I	II	III	IV	V	VI	VII	VIII	IX
				ALTERNATIVES					
Staff	$ 3,800	$ 3,160	$ 3,157	$ 3,044	$ 3,189	$ 3,080	$ 3,215	$ 3,553	$ 4,014
Student	12,502	12,502	12,502	14,730	14,730	14,730	14,730	14,730	14,730
Facilities	830	888	844	1,079	1,087	1,086	1,101	1,101	1,108
Transpor- tation	1,146	1,369	1,534	2,792	1,511	1,412	1,185	1,041	991
Per Diem	172	157	292	431	390	346	262	225	106
Total	18,450	18,076	18,239	22,076	20,907	20,654	20,493	20,650	20,949
Changes in Cost*	-0-	-374	-211	+3,626	+2,457	+2,204	+2,043	+2,200	+2,499

*Represents the difference between the total cost for the alternative in question and alternative I,
"Status Quo."

TABLE 22. ANNUAL RELEVANT COSTS WITH CIVIL SERVICE INSTRUCTORS FOR IT ALTERNATIVES* ($1,000)

					ALTERNATIVES				
	I	II	III	IV	V	VI	VII	VIII	IX
Staff	$ 3,800	$ 3,203	$ 3,227	$ 3,077	$ 3,225	$ 3,120	$ 3,314	$ 3,653	$ 4,127
Student	12,502	12,502	12,502	14,730	14,730	14,730	14,730	14,730	14,730
Facilities	830	888	844	1,079	1,087	1,086	1,101	1,101	1,108
Transportation	1,146	1,369	1,534	2,792	1,511	1,412	1,185	1,041	991
Per Diem	172	157	292	431	390	346	262	225	106
Total Relevant Costs	$18,450	$18,119	$18,399	$22,109	$20,943	$20,694	$20,592	$20,750	$21,062
Changes in Cost**	-0-	-331	-51	+3,659	+2,493	+2,244	+2,142	+2,300	+2,612

*Alternatives II through IX were valuated under the assumption that IT instructors were civil servants. Alternative I, "Status Quo," was costed with the actual schoolhouse staffing as it exists today.

**Represents the difference between the total cost for the alternatives in question and alternative I, "Status Quo."

TABLE 23. ANNUAL RELEVANT COSTS WITH CONTRACT INSTRUCTORS FOR IT ALTERNATIVES* ($1,000)

| | ALTERNATIVES | | | | | | | | |
	I	II	III	IV	V	VI	VII	VIII	IX
Staff	$ 3,800	$ 3,534	$ 3,554	$ 3,364	$ 3,873	$ 3,651	$ 3,826	$ 4,163	$ 4,704
Student	12,502	12,502	12,502	14,730	14,730	14,730	14,730	14,730	14,730
Facilities	830	888	844	1,079	1,087	1,086	1,101	1,101	1,108
Transportation	1,146	1,369	1,534	2,792	1,511	1,412	1,185	1,041	991
Per Diem	172	157	292	431	390	346	262	225	106
Total Relevant Costs	$18,450	$18,450	$18,726	$22,396	$21,591	$21,225	$21,104	$21,260	$21,639
Changes in Cost**	-0-	-0-	+276	+3,946	+3,141	+2,775	+2,654	+2,810	+3,189

*Alternatives II through IX were valuated under the assumption that IT instructors were contractors. Alternative I, "Status Quo," was costed with the actual schoolhouse staffing as it exists today.

**Represents the difference between the total cost for the alternative in question and alternative I, "Status Quo."

SECTION V

SUMMARY AND RECOMMENDATIONS

This study analyzed current economic and qualitative factors that would affect the centralization of IT in the NAVEDTRACOM. Centralization scenarios for IT were developed using various curricula; potential siting configurations; contract, civil service, or military instructors; the NICP; and mobile teams for instructor training as elements. Nine scenarios were selected for detailed cost analysis.

The scenarios were developed in two groups. The first group was based on current IT courses. The current instructional program for the IT throughout NAVEDTRACOM consists primarily of a set of 10 courses offered in different combinations at each of 10 primary locations. The second group was based on expected IT "tracks" now being developed under contract. Since this new instructional program was not rigorously defined, it was necessary to estimate the program content and track characteristics. These estimates were based on discussions with NAVEDTRACOM personnel involved in the IT curriculum contract. Estimates suggest that a longer period of instruction will be required for students to complete these tracks. Thus, AOB will increase, and additional requirements for instructors and staff are anticipated.

Each alternative reflects consideration of CNO and CNET initiatives now underway concerning LMET and the centralization of RTC CC training. Alternatives I, II, and III (based on the current IT instructional program), have been modified to include LMET, which will eventually be implemented for all shore establishments. The first three alternatives differ only as to the location(s) where the training would be offered. Alternatives IV through IX (based on the IT instructional program being developed under contract) have been modified to include LMET, CC training, and SOC. These last six alternatives also differ only as to the location(s) where the training would be offered. Alternative IV describes a single site configuration, and alternatives V through IX are based on 2, 3, 5, 6, and 9 sites, respectively.

The study also reviewed the impact of the NICP, mobile teams, and the use of military, civilian, or contractor personnel as instructors on the potential centralization of IT. The evidence gathered during this study indicates that none of these factors would have a significant impact on any centralization decision. The implementation of an NICP could be accomplished regardless of the centralization decision, and this implementation would have little impact on the relative cost among the alternatives considered. The use of mobile teams under a single siting of instructor training would probably result in significantly higher costs for the single site. However, because of the high travel costs, a single site will not be recommended and the cost of mobile teams in support of a single site becomes moot. The real costs of mobile teams incurred in support of decentralized alternatives may vary with the number of sites used. However, assuming their use on an ad hoc basis, the relative differences among alternative costs caused by the use of mobile teams would be inconsequential.

The costs of the single site (alternative IV) are substantially higher than any of the more decentralized alternatives. The origins and destinations

of students taking IT are geographically distributed such that conducting all IT at a single site requires considerable travel. Travel costs have escalated rapidly and are now sufficiently high to offset any cost savings which might previously have been obtained from centralization. Based on the new IT program, the selection of a single location for IT would cost approximately $1.5 million more per year than the lowest cost multisite alternative. Increases in travel costs are expected to continue and will lead to further cost disadvantages for a single site configuration.

Differences in costs among alternatives V through IX are not sufficient to warrant a strong recommendation favoring the adoption of any one of these alternatives. Indeed, the similarity in costs among the various alternatives analyzed in this study leads to the conclusion that any decision to centralize IT must be based on factors other than cost.

The costs of civilian instructors, contract instructors, and military instructors were substantially different for the same site configurations. However, holding constant the type of instructors, the relative costs among alternatives V through IX remained essentially the same.

The following actions are recommended to enhance the effectiveness and the efficiency of the IT program:

- consolidate common CC training with the IT program

- consolidate LMET for "A" school instructors and CC with the IT program

- develop and implement a Senior Officer Training Management Course for selected command and staff personnel and include the course as part of the IT instructional program

- eliminate formal IT at Charleston because of low throughput

- eliminate alternatives I, II, and III (9, 5, and 3 sites, respectively; based on modified current IT program of instruction) from consideration for implementation because of curricular revisions already underway

- eliminate alternative IV (single site; based on modified contract IT program of instruction) from consideration because of the increased costs which would result from centralizing all IT at a single site

The cost and qualitative factors considered in this study do not strongly distinguish any of the remaining five alternatives as a clear favorite. It is, therefore, recommended that selection from among these be made on the basis of other criteria, to include, but not be limited to, the need to consolidate management or curriculum control, consideration of individual

warfare specialty community requirements, and the responsiveness of the program to local operational needs and/or training activities.

On the basis of these factors, alternative VIII (6 sites; based on modified contract IT program of instruction) is recommended for implementation.

APPENDIX A

LIST OF INSTRUCTOR TRAINING RELATED COURSES
CURRENTLY IDENTIFIED IN CANTRAC

LIST OF INSTRUCTOR TRAINING RELATED COURSES
CURRENTLY IDENTIFIED IN CANTRAC

COURSE NO.	TITLE
A-012-0036	Individualized Instruction Techniques
E-4E-0605	A-6 Nuclear WEPS Delivery Instructor
E-210-0532	ASW Aircrew Instructor
A-7C-0019	HRM Specialist Instructor
A-012-0012	Learning Center Instructor
K-2B-9020	Nuclear WEPS Delivery Instructor
Q-2A-0060	T-28 Flight Instructor
D-2A-0011	2F87-F Operational Flight Trainer - Pilot, Flight Eng - Instructor
E-2D-0077	Instructor, 2F87T Weapon System Trainer
Q-2A-0062	Instructor and Post Grad Pilot Training, Advanced Strike Flight
A-5K-0001	Instructor Basic
A-012-0011	Instructor Basic
A-651-0103	Instructor Certification - Boilerwater - Feedwater Test and Treatment
E-2D-1804	Instructor ECM Officer EA6B, ICAP Version-Instructor Under Training (IUT) for Fleet
E-2D-1803	Instructor ECM Officer EA6B IUT for Fleet
F-00-0014	Instructor Indoctrination Officer
E-2A-1802	Instructor Pilot, EA6B ICAP IUT for Fleet
E-2A-1801	Instructor Pilot, EA6B, IUT for Fleet
E-2A-0205	Instructor Pilot Water Training E2B
A-012-0023	Instructor, Shipboard
Q-2A-0067	Instructor Training (IT); Advanced Helo Flight
H-00-3772	IT; Basic Amphibious Troop

LIST OF INSTRUCTOR TRAINING RELATED COURSES
CURRENTLY IDENTIFIED IN CANTRAC (continued)

COURSE NO.	TITLE
Q-570-0100	IT; Deep Water Environment Survival Training - Key West
Q-2A-0066	IT; Fundamental Helo Flight
Q-2A-0068	IT; Intermediate Strike
Q-570-0101	IT; NAWSIT (Naval Aviation Water Survival Instructor Training)
Q-5K-0101	IT Course; Academic
Q-2B-0010	IT Course; Flight
E-2A-2804	IT Program; Advisory
D-2C-0903	IUT-LAMPS Aircrew SH2F
E-2C-0906	IUT-Pilot Training HSL31
D-2C-0906	IUT-Pilot Training Curriculum Outline - HSL30
D-2C-2705	IUT Category 5 RH 53D
E-2D-1803	IUT for Fleet Instructor ECM Officer EA6B
E-2D-1804	IUT for Fleet Instructor ECM Officer EA6B ICAP Version
E-2A-1801	IUT for Fleet Instructor Pilot EA6B
E-2A-1802	IUT for Fleet Instructor Pilot EA6B ICAP Version
E-2D-1606	IUT NFO Training F-14
E-2A-1607	IUT Pilot Training F-14
E-2C-0516	IUT SH3
A-7C-0024	LMET for Instructors
G-2E-4663	Survival; Instructors - Water Safety
C-100-3194	Instructor Training; Module Repair
A-012-0031	Technical Curriculum Development
A-7B-0010	Navy Schools Management

APPENDIX B

TOPICAL OUTLINE OF THE
SENIOR OFFICER MANAGEMENT TRAINING COURSE

TOPICAL OUTLINE OF THE
SENIOR OFFICER MANAGEMENT TRAINING COURSE

The Senior Officer Management Training Course (SOC) provides to selected commanding officers, executive officers, and officers assigned to key staff positions standard preparation in training management. The management course would be divided into two phases.

Phase I, General Topics, would be given to all personnel selected for assignment in the NAVEDTRACOM. This phase would provide the student an overview of the mission and functions of the NAVEDTRACOM, the manpower training system, including acquisition of officer and enlisted personnel, and the management of the system.

The phase II training program would be tailored to the specific assignment of the individual. For example, personnel assigned to NTC, SSC, NATTC, or NTTC would take a common core of training. Likewise, officers assigned to NROTC would complete the current program that is tailored for their specific needs. The same would apply to RTC commanders and key staff members of CNET, CNATRA, CNTECHTRA, and COMTRALANT/PAC.

Topics recommended for the SOC are:

I. General Topics

    A. Naval Education and Training Organization and Operation

        1. Mission, function, and operation of OP-01 to include OP-11, -12, -13, -14 and -15, OPNAV training warfare sponsors and special staffs relating to education and training.

        2. Mission, function, and operation of the NAVEDTRACOM, to include DCOS, ACOS, special staff, major functional commands and training support (NAVTRAEQUIPCEN).

        3. The development of training requirements for general topics and weapons systems.

        4. The Planning, Programming, and Budgeting System including: (a) FYDP, (b) POM cycle, (c) budget cycle, (d) types of funding, and (e) audit trail.

    B. Manpower Training System

        1. Enlisted

            (a) Initial Entry Training

                (1) Acquisition programs
                (2) Recruiting

          (3) Function of AFEES
          (4) Recruit Training
          (5) Specialized Training

      (b) Advanced Training

          (1) Advanced Skill/Technical Training
          (2) LMET
          (3) Instructor Training
          (4) NRM
          (5) Recruiter
          (6) Recruit Company Commander
          (7) CPO Academy

2. Officer

      (a) Acquisition Programs

          (1) Academy
          (2) NROTC
          (3) OCS
          (4) AOCS
          (5) Special Programs

      (b) Warfare and Staff Specialties

          (1) Aviation (Aviator/NFO)
          (2) SWOS
          (3) Submarine
          (4) Nuclear Power
          (5) Medical/Dental
          (6) Supply
          (7) Chaplain
          (8) Other

      (c) Professional Development

          (1) Armed Forces Staff College
          (2) Naval Postgraduate School
          (3) Naval War College
          (4) Industrial College of the Armed Forces
          (5) Other

C. Management Systems

    1. Manpower/Training Information Systems for DOD
    2. Navy ADP systems and control policy
    3. Navy and NAVEDTRACOM Contracting Systems
    4. Contract services and support
    5. Civil Service system and support

II-A.   School Commanders and Staff (less Recruit Training Command)

A.   Leadership/Management

1.   Command and staff in shore based training environment
2.   Integrated Training Brigade
3.   Barracks leadership/inspection
4.   Male/female training and management
5.   Stress management
6.   Staff and family
7.   Student and family (family services)
8.   Management resources

B.   Navy Training Systems

1.   Instructor Training
2.   Navy Training

(a)   Theories of instructional technology
(b)   Instructional system development
(c)   Lock-step training
(d)   Self-paced training
(e)   Use of computer in Navy training (CAI, CMI)
(f)   Training evaluation
(g)   Training support and services

C.   Organization of Command and Support

1.   Departments, mission, and function
2.   Divisions, mission, and functions
3.   Barracks, support, and maintenance
4.   Galley
5.   Supply
6.   Staff support

(a)   Classification
(b)   Medical/dental
(c)   Chaplain
(d)   Special services

II-B.   NROTC Commanders and Executive Officers (course outline developed by CNET (N-1))

II-C.   Commanders and Executive Officers, Recruit Training Command

A.   Recruit Training System

1.   Recruiting
2.   Enlistment programs
3.   Role and function of AFEES
4.   In-processing
5.   Classification
6.   Supply

       7.   Barracks, utilization
       8.   Training topics
       9.   Remedial training
      10. Physical training
      11. Military/Navy training
      12. Recruit evaluation
      13. Out-processing

B.   Apprentice Training

       1.   Airman
       2.   Seaman
       3.   Fireman

C.   Management/Leadership

       1.   Military Leadership

          (a) Staff
          (b) Recruits
          (c) Morning muster/colors
          (d) Pass in review

       2.   Command and Company Commander (CC)

          (a) Company Commander selection and duties
          (b) Company Commander training
          (c) Company Commander and his/her family
          (d) Company Commander evaluation

       3.   Command and Division Officers

          (a) Division Officers selection and duties
          (b) Division Officers training
          (c) Division Officers and his/her family
          (d) Division Officers evaluation

       4.   Management

          (a) Stress management
          (b) Integrated male-female training management
          (c) Performance management
          (d) Communications in recruit training environment

II-D.   CNET, CNATRA, CNTECHTRA, TRALANT/PAC STAFFS

    A.   Headquarters Staff Organization
    B.   Mission and Function of Special Staffs
    C.   Mission and Function of ACOSs
    D.   Headquarters Staffing Procedures

APPENDIX C

SAMPLE ORGANIZATIONAL STRUCTURES FOR
CENTRALIZATION ALTERNATIVES
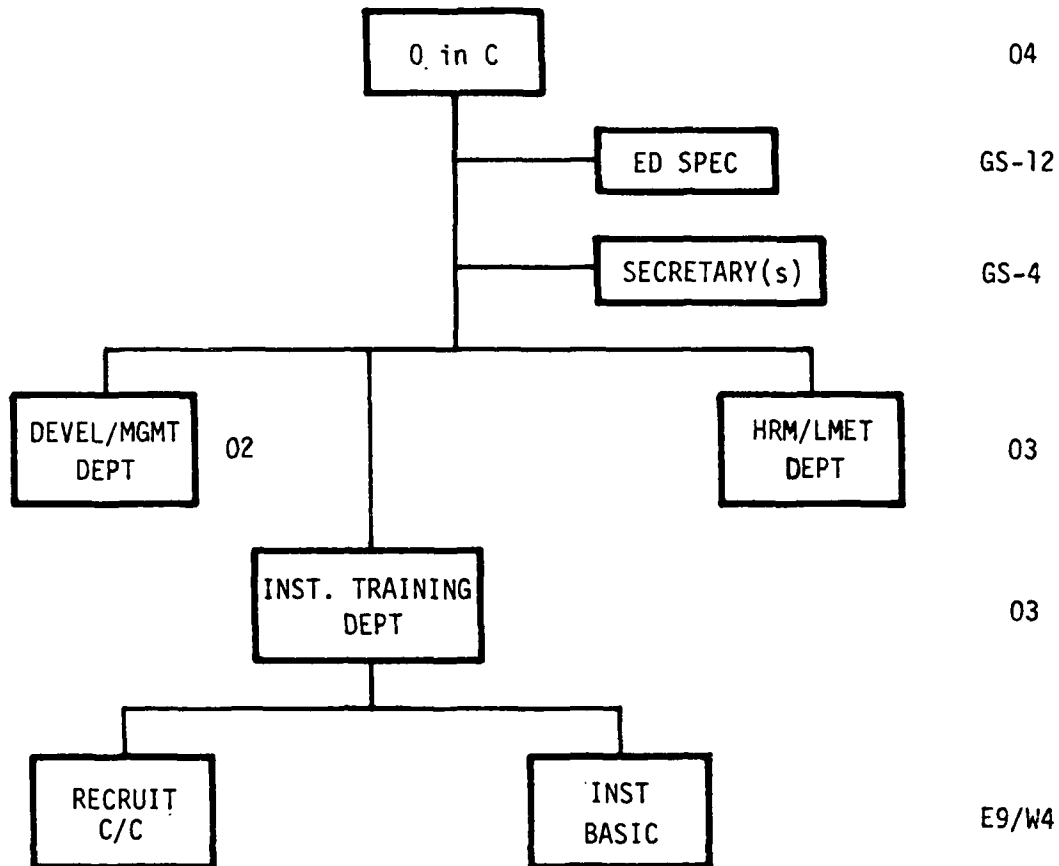
Figure C-1. Sample Organization and Staff/Instructor Assignments
for Current IT System at Five or Three Sites: Memphis

Figure C-2. Sample Organization and Staff/Instructor Assignments for Current IT System at Five Sites: San Diego and Norfolk

75

```
        ┌─────────┐
        │  O in C │            O3
        └────┬────┘
             │   ┌─────┐
             ├───│ SEC │       GS4
             │   └─────┘
      ┌──────┴──────────────┐
 ┌────────┐            ┌────────┐
 │  ITB   │ O2         │  ITSB  │ E9
 └────────┘            └────────┘
```

STAFF TOTALS: O3-1
              O2-1
              E9-1
             GS4-1
                 4

INSTRUCTOR TOTALS: E8-1
(New London) E6-6
             7

INSTRUCTOR TOTALS E8-1
(Bangor) E6-3
          4

Figure C-3. Sample Organization and Staff/Instructor Assignments for Current IT System at Five Sites: New London and Bangor
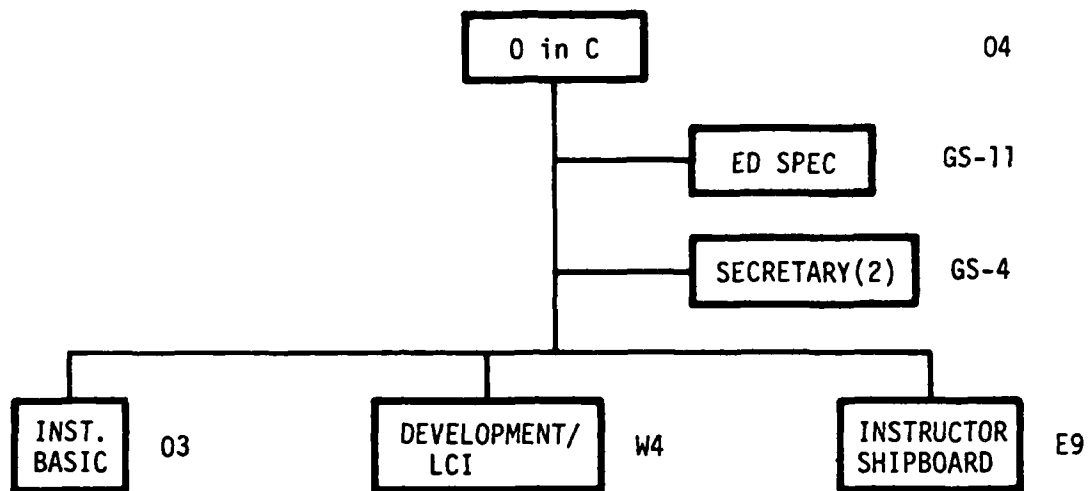
76

Figure C-4. Sample Organization and Instructor/Staff Assignments for Current IT System at Three Sites: San Diego and Norfolk

77

Figure C-5.   Sample Organization and Instructor/Staff Assignments
for Proposed IT System at a Single Site: Memphis

```
                                    ┌────────┐                    04
                                    │ O in C │
                                    └────┬───┘        SECRETARY   (2)    GS4
                                         │            ED SPEC            GS11
          ┌──────────────┬───────────────┼───────────────────┬──────────────┐
  ┌─────────────┐  ┌─────────────┐  ┌──────────────┐    ┌─────────┐
  │ GROUP PACED │  │ SELF PACED  │  │   MGMT/      │    │  LMET   │ 02
  │    TRACK    │03│    TRACK    │W4│ DEVELOPMENT  │E9  └─────────┘
  └──────┬──────┘  └─────────────┘  │    TRACK     │
         │                          └──────────────┘
   ┌──────────┐
   │ ASST │ E9│
   └──────────┘
```

Staff Totals:	04	- 1	Instructor Totals:	E9 - 2
	03	- 1		E8 - 6
	02	- 1		E7 - 15
	W4	- 1		E8 - 8
	E9	- 2		——
	GS11	- 1		31
	GS4	- 2		
		——		
		9		

Figure C-6. Sample Organization and Instructor/Staff Assignments
for Proposed IT System at Two Sites: San Diego

Figure C-7. Sample Organization and Instructor/Staff Assignments for Proposed IT System at Two Sites: Norfolk (Alternate: Memphis)

```
                            ┌─────────┐
                            │ O in C  │    O4
                            └────┬────┘
                                 │
                                 │      ┌───────────────┐
                                 ├──────│ SECRETARY (2) │  GS 4
                                 │      └───────────────┘
                                 │
                                 │      ┌───────────────┐
                                 ├──────│   ED SPEC     │  GS 11
                                 │      └───────────────┘
          ┌──────────────────────┼──────────────────────┐
   ┌──────────────┐       ┌──────────────┐        ┌──────────────┐
   │ DEVELOPMENT  │       │ GROUP & SELF │        │  SHIPBOARD   │
   │ TRACK AND    │  O2   │ PACED TRACK  │  O3    │    TRACK     │  W4
   │    LMET      │       └──────┬───────┘        └──────────────┘
   └──────────────┘              │
                                 │     ┌───────────┐
                                 ├─────│  ED SPEC  │  GS9
                                 │     └───────────┘
                            ┌─────────┐
                            │  ASST   │   E9
                            └─────────┘
```

STAFF TOTALS: O4   - 1   INSTRUCTOR TOTALS: E9 - 2
                 O3   - 1   E8 - 5
                 O2   - 1   E7 - 8
                 W4   - 1   E6 - 10
                 E9   - 1   E5 - 5
                 GS11 - 1   ────
                 GS9 - 1   30
                 GS4 - 2
                       ──
                        9

Figure C-8.   Sample Organization and Staff/Instructor Assignments
              for Proposed IT System at Three sites: San Diego
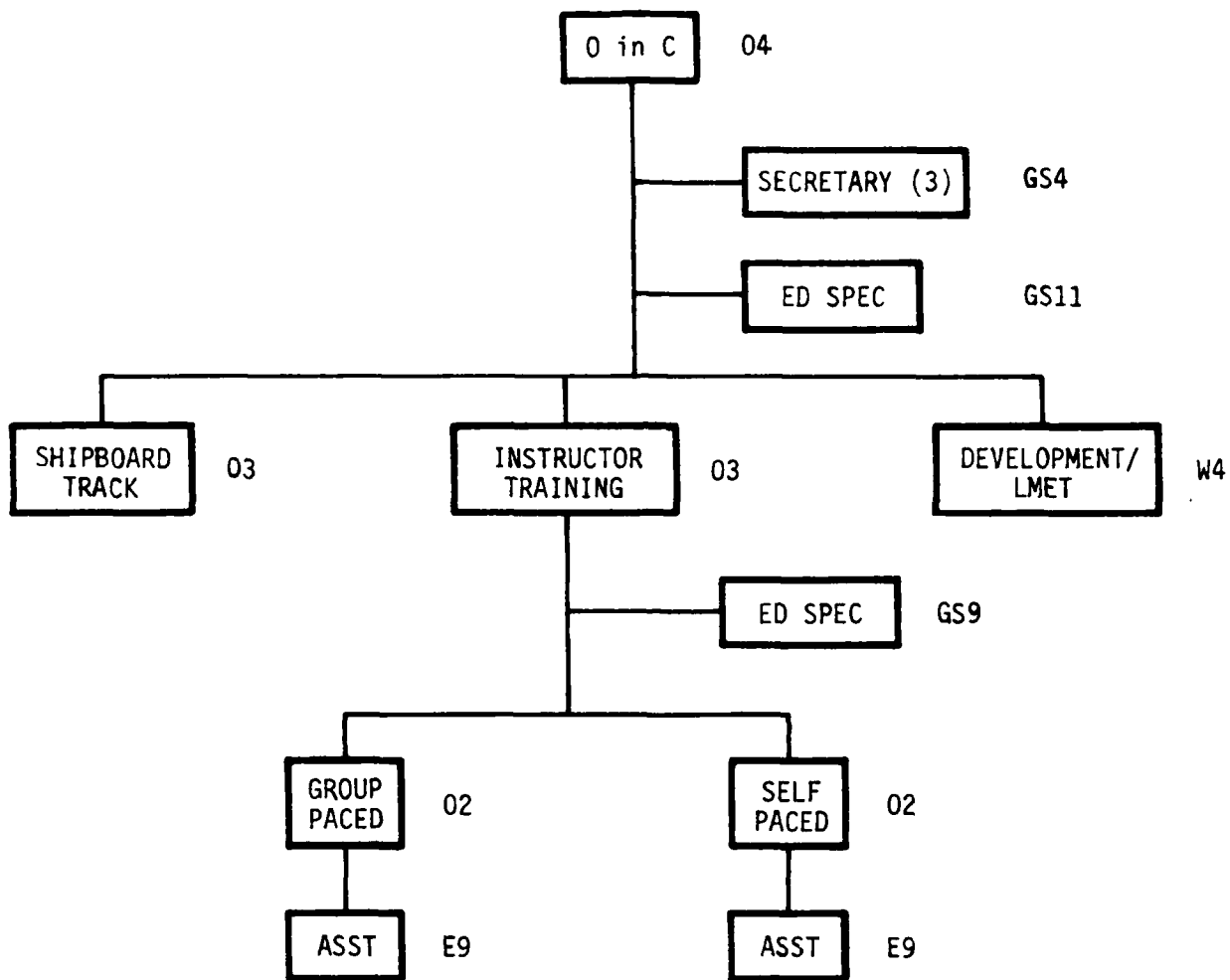
Figure C-9. Sample Organization and Staff/Instructor Assignments
for Proposed IT System at Three Sites: Norfolk
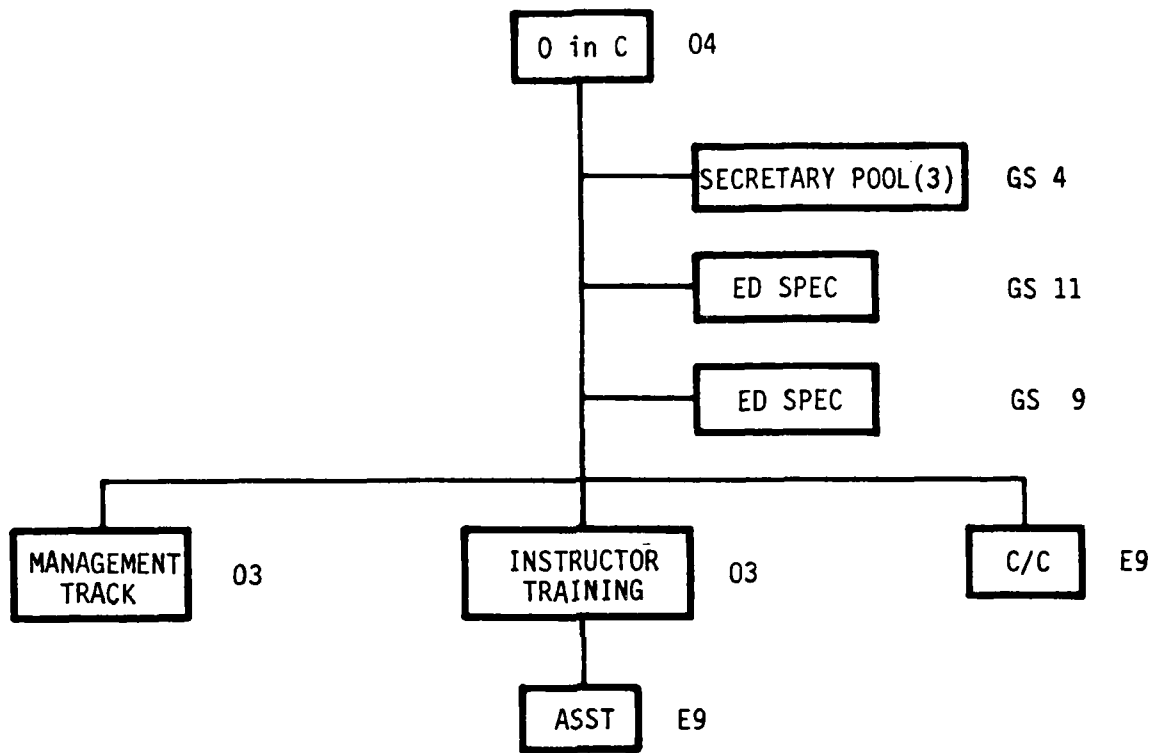
```
                      ┌──────────┐
                      │  O in C  │   O4
                      └────┬─────┘
                           │
                           ├──────────┌─────────────────────┐
                           │          │  SECRETARY POOL(3)  │   GS 4
                           │          └─────────────────────┘
                           │
                           ├──────────┌──────────┐
                           │          │  ED SPEC │   GS 11
                           │          └──────────┘
                           │
                           ├──────────┌──────────┐
                           │          │  ED SPEC │   GS  9
                           │          └──────────┘
                           │
        ┌──────────────────┴───────────────────┐
        │                  │                    │
  ┌───────────┐     ┌───────────────┐      ┌─────────┐
  │ MANAGEMENT│ O3  │   INSTRUCTOR  │ O3   │   C/C   │  E9
  │   TRACK   │     │    TRAINING   │      └─────────┘
  └───────────┘     └───────┬───────┘
                            │
                       ┌─────────┐
                       │  ASST   │  E9
                       └─────────┘
```

STAFF TOTALS:				INSTRUCTOR TOTALS:		
	O4	–	1		E9 –	4
	O3	–	2		E8 –	8
	E9	–	2		E7 –	6
	GS11	–	1		E6 –	12
	GS9	–	1		E5 –	6
	GS4	–	3			36
			10			

Figure C-10. Sample Organization and Staff/Instructor Assignments
for Proposed IT System at Three Sites: Memphis
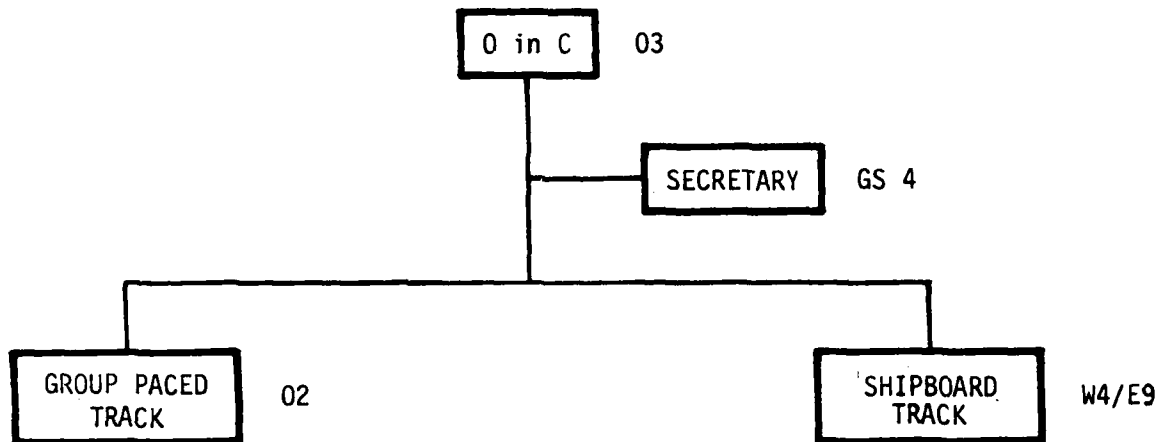
```
                        ┌──────────┐
                        │  O in C  │   O3
                        └────┬─────┘
                             │      ┌───────────┐
                             ├──────│ SECRETARY │   GS 4
                             │      └───────────┘
             ┌───────────────┴───────────────┐
      ┌──────────────┐                 ┌──────────────┐
      │ GROUP PACED  │   O2            │  SHIPBOARD   │   W4/E9
      │    TRACK     │                 │    TRACK     │
      └──────────────┘                 └──────────────┘
```

STAFF TOTAL: O3   – 1   INSTRUCTOR TOTALS: E8 – 1
                O3   – 1   (Bangor)   E7 – 1
                W4/E9 – 1   E6 – 4
                GS4   – 1   ―
                        ―   6
                        4

                                   INSTRUCTOR TOTALS: E8 – 1
                                      (New London)   E7 – 2
                                                         E6 – 4
                                                         E5 – 3
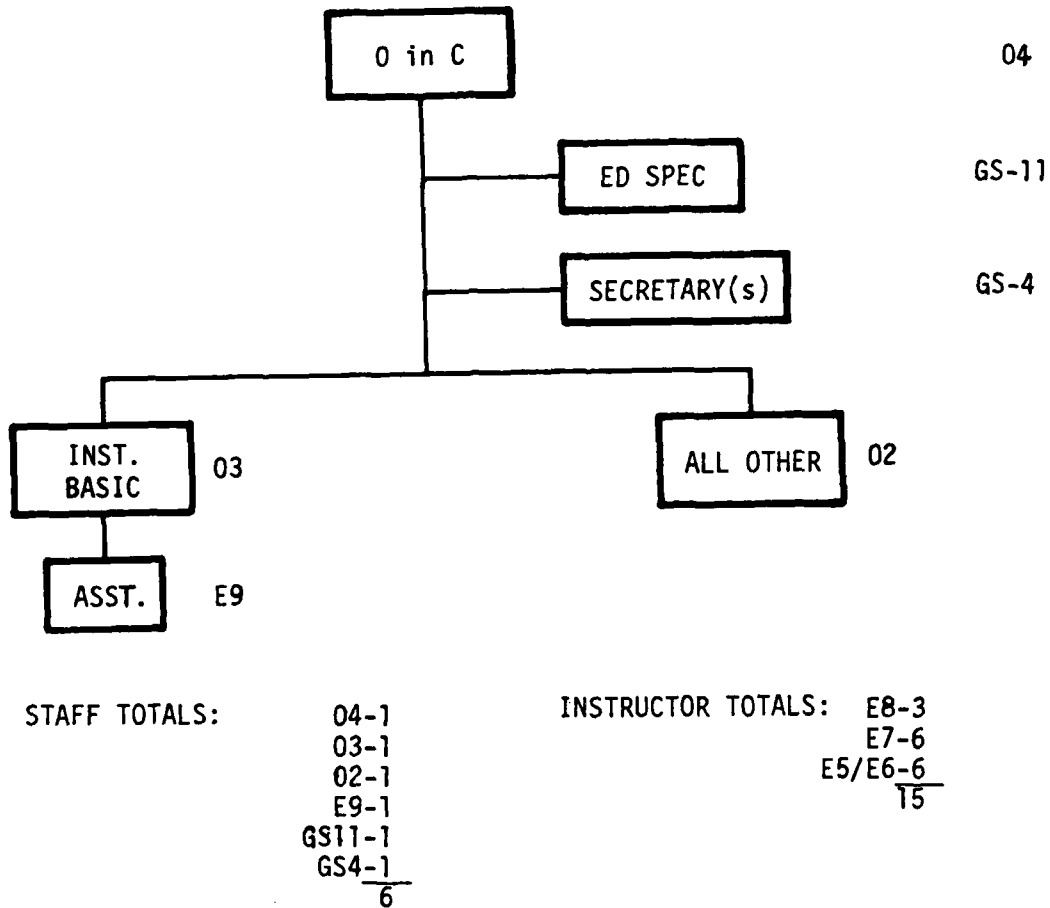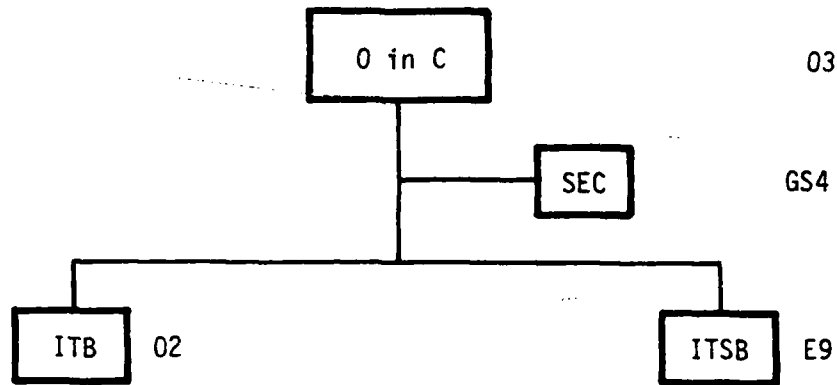   ――
                                                               10

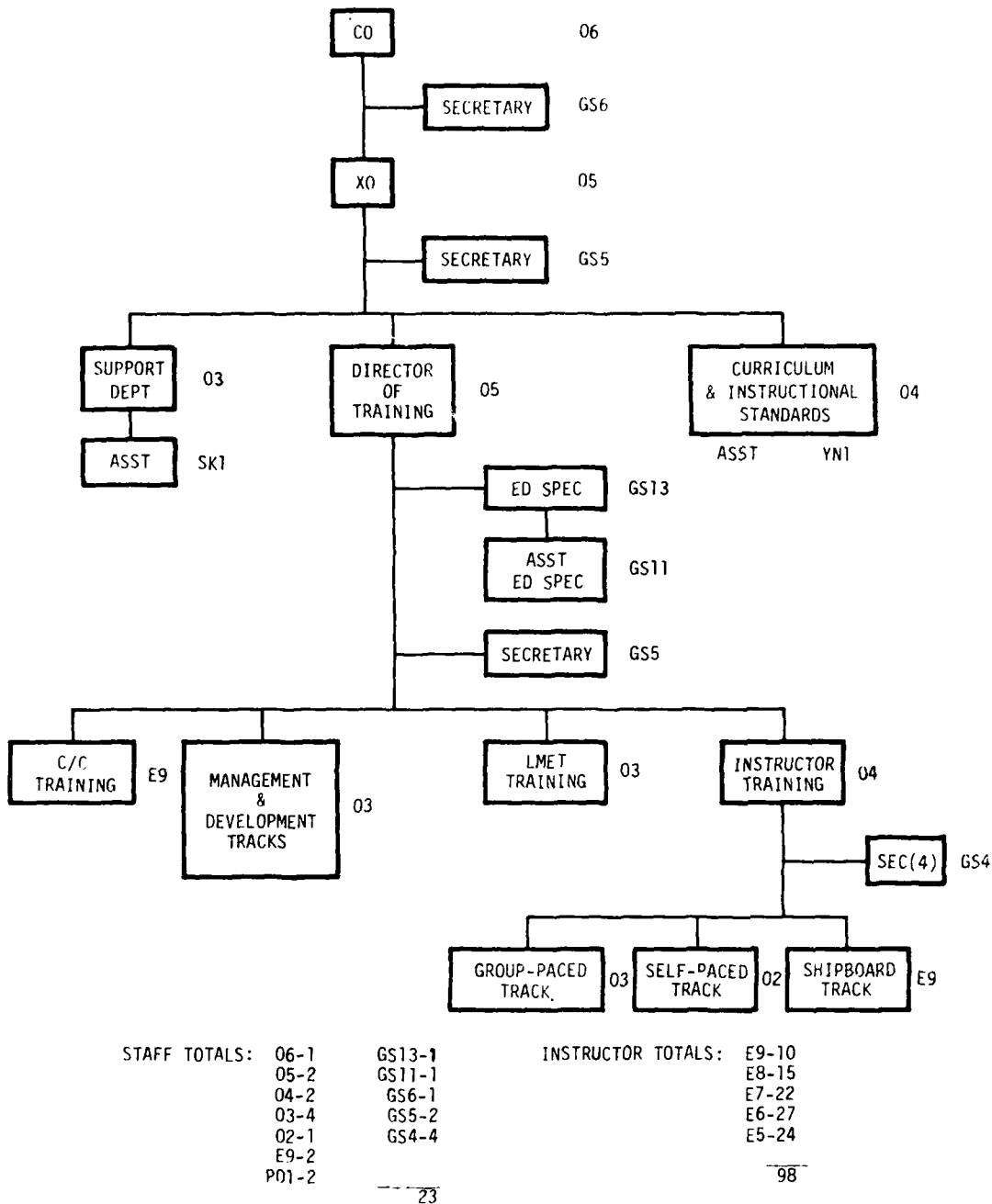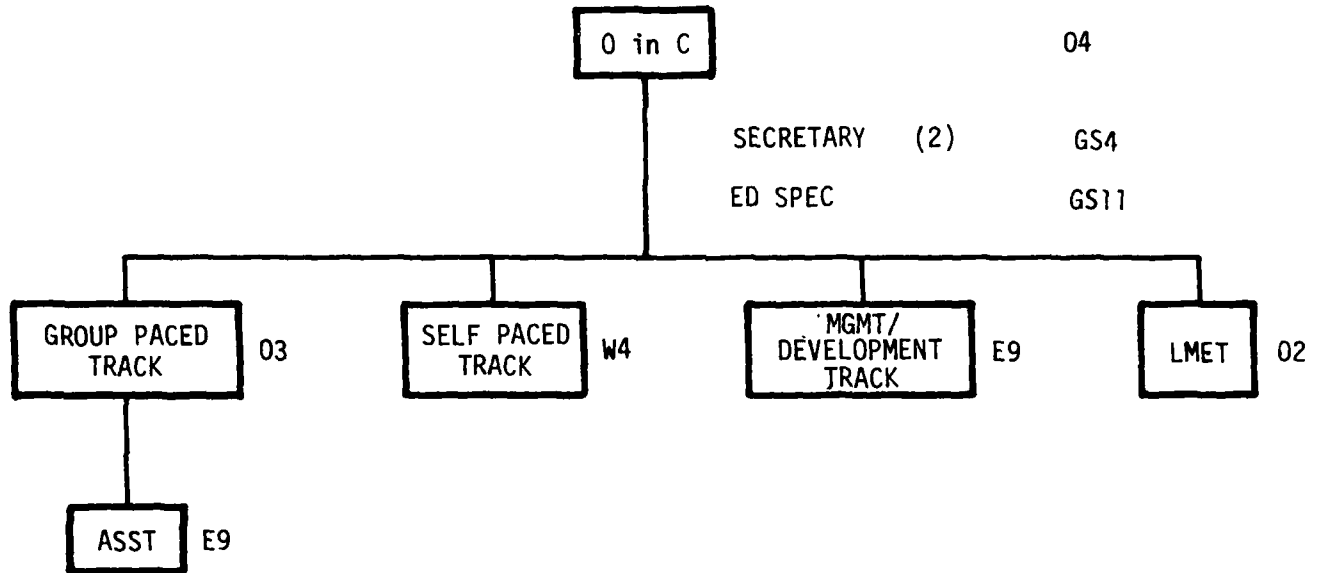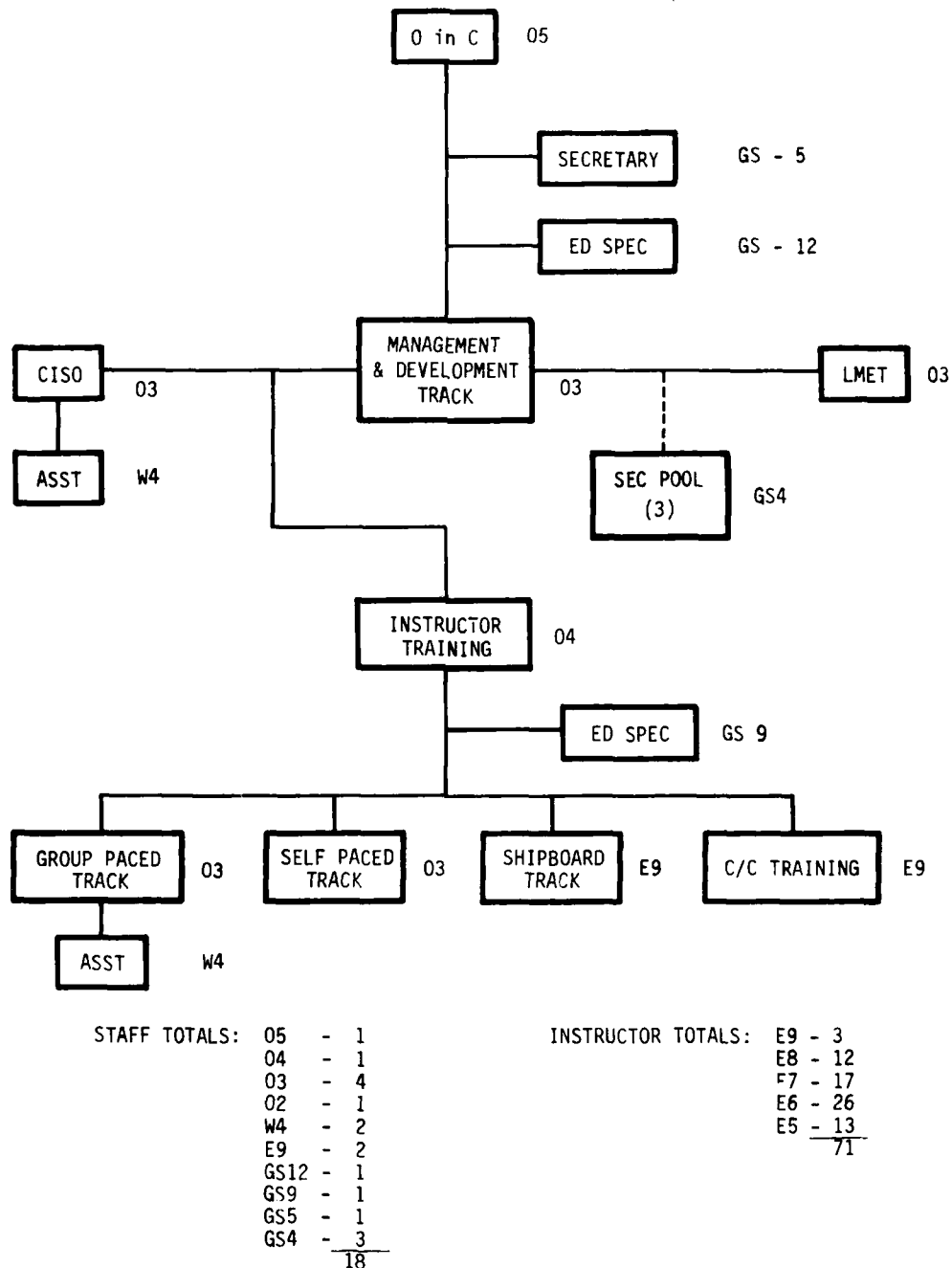Figure C-11.   Sample Organization and Staff/Instructor Assignments
               for Proposed IT System at Five Sites: Bangor and
               New London

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```
                          ┌──────────┐
                          │  O in C  │   04
                          └────┬─────┘
                               │
                               │        ┌─────────────┐
                               ├────────│  SECRETARY  │   GS4
                               │        └─────────────┘
                               │
                               │        ┌─────────────┐
                               ├────────│   ED SPEC   │   GS11
                               │        └─────────────┘
           ┌───────────────────┴───────────────────────┐
    ┌──────────────┐                            ┌─────────────┐
    │ GROUP PACED  │                            │ SHIPBOARD & │
    │ SELF PACED   │   03                       │  TECHNICAL  │   02
    │   TRACKS     │                            │ DEVELOPMENT │
    └──────┬───────┘                            │   TRACKS    │
           │           ┌─────────────┐          └─────────────┘
           ├───────────│  SECRETARY  │   GS3
           │           └─────────────┘
    ┌──────────┐
    │   ASST   │   E9
    └──────────┘
```
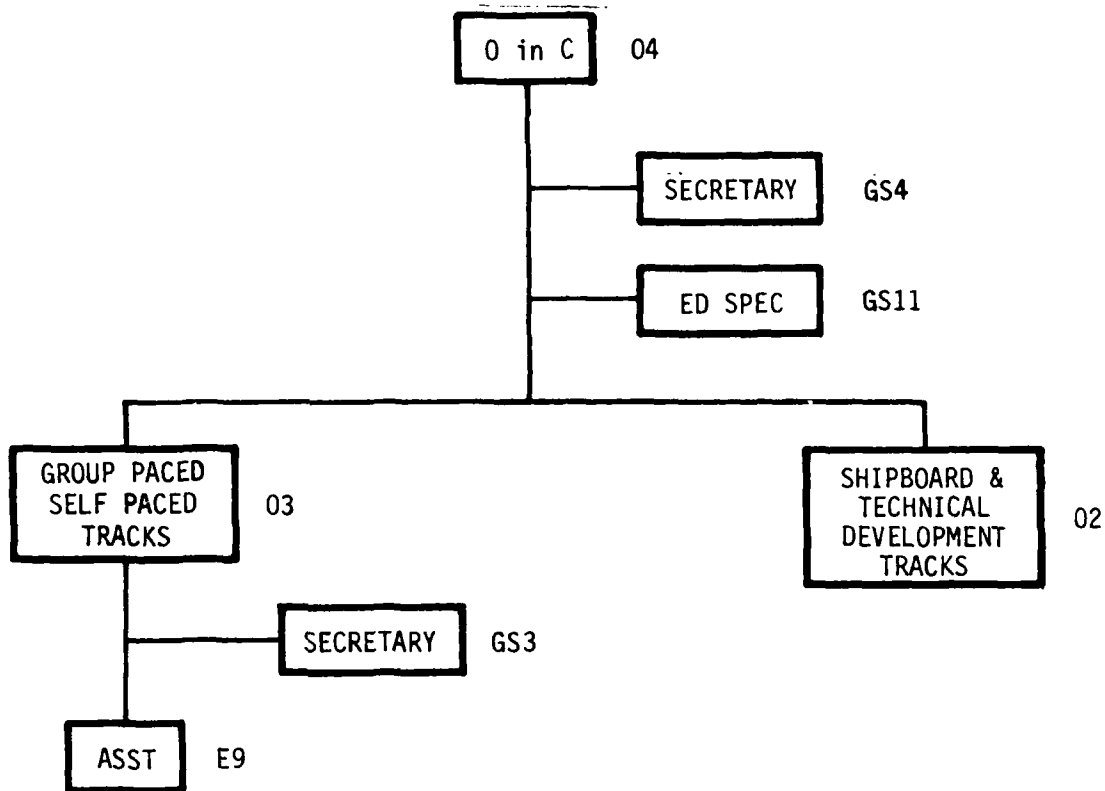
(Note: 2 E9 ASST
         for San Diego)

STAFF TOTAL:				INSTRUCTOR TOTALS: (Norfolk)		
04	–	1		E9	–	2
03	–	1		E8	–	3
02	–	1		E7	–	6
E9	–	1 (2 San Diego)		E6	–	10
GS11	–	1		E5	–	4
GS4	–	1				25
GS3	–	1				
		7 (8 San Diego)	INSTRUCTOR TOTALS: (San Diego)	E9	–	2
				E8	–	4
				E7	–	7
				E6	–	8
				E5	–	5
						26

Figure C-12.   Sample Organization and Staff/Instructor Assignments
for Proposed IT System at Five Sites: Norfolk and
San Diego
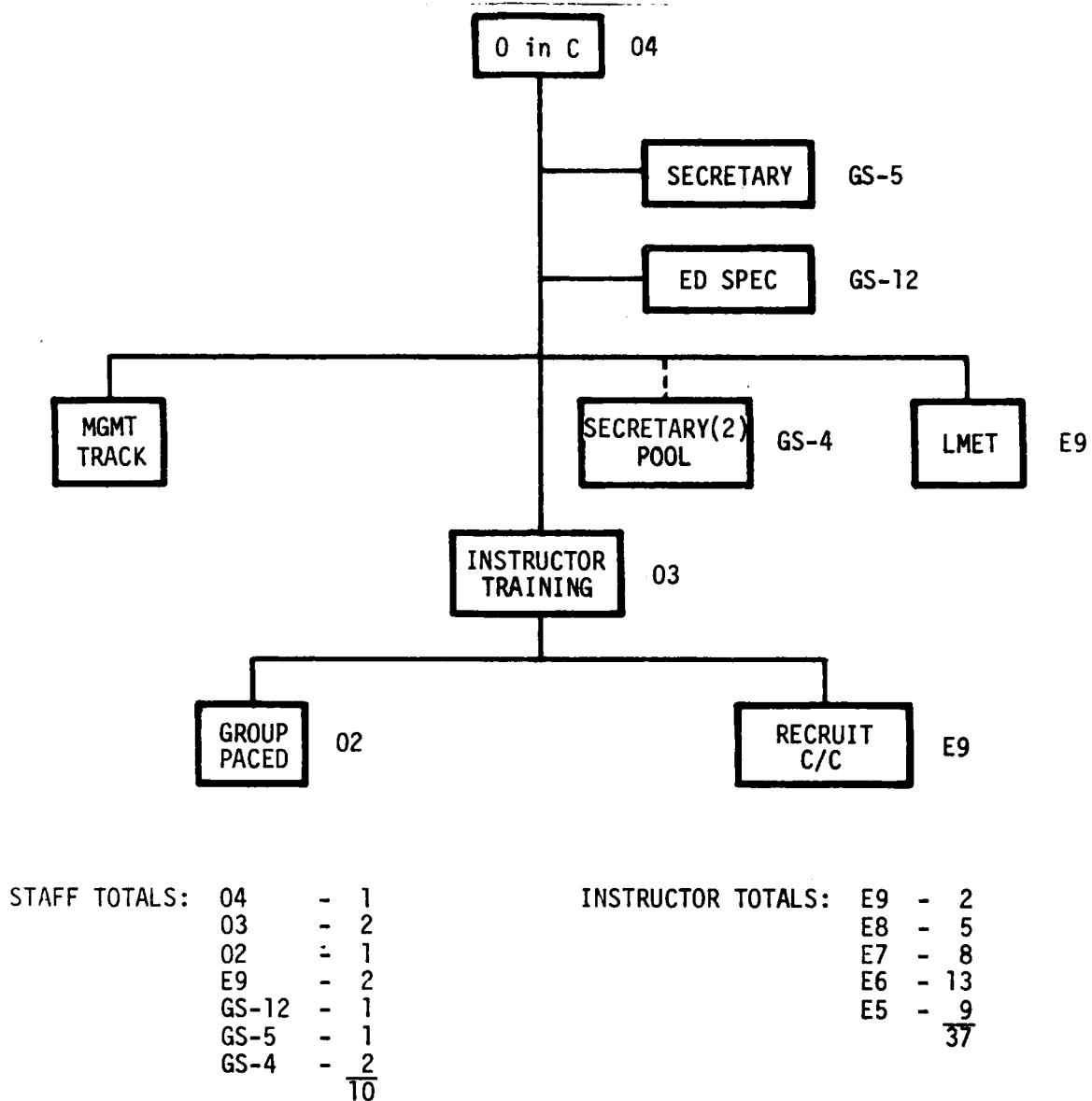
Figure C-13. Sample Organization and Staff/Instructor Assignments
for Proposed IT System at Five Sites: Memphis

STAFF TOTALS:
04	–	1
03	–	2
02	÷	1
E9	–	2
GS-12	–	1
GS-5	–	1
GS-4	–	2
		10

INSTRUCTOR TOTALS:
E9	–	2
E8	–	5
E7	–	8
E6	–	13
E5	–	9
		37

```
                        ┌─────────┐
                        │ O in C  │   O - 3
                        └────┬────┘
                             │        ┌───────────┐
                             ├────────│ SECRETARY │   GS-4
                             │        └───────────┘
                        ┌────┴────┐
                        │ ASS'T   │   W4/E9
                        │ O in C  │
                        └─────────┘
```
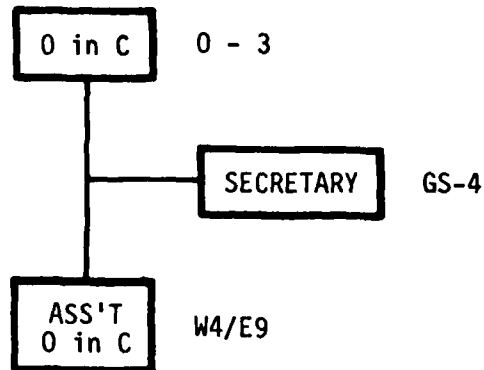
STAFF TOTALS: O3 - 1
                W4/E9 - 1
                GS-4 - $\frac{1}{3}$

INSTRUCTOR TOTALS   E8 - 1
(Bangor)   E6 - $\frac{2}{3}$

INSTRUCTOR TOTALS   E8 - 1
(Pearl Harbor)   E6 - $\frac{4}{5}$

Figure C-14. Sample Organization and Staff/Instructor
Assignments for Proposed IT System at Six
Sites: Bangor and Pearl Harbor

APPENDIX D

IT SCHOOL SURVEY

IT SCHOOL SURVEY

Included in this appendix is a copy of the survey form distributed to the current major IT sites within the COMTRALANT, COMTRAPAC, and CNTECHTRA commands. The purpose of the survey was to gain an overview of the workloads and the manpower and facilities requirements for the current IT system.

The following activities were surveyed:

COMMAND	COURSE
FLEMINEWARTRACEN Charleston	Technical Curriculum Development
FLETRACEN Norfolk	Technical Curriculum Development Instructor Shipboard Instructor Basic
FLETRAGRU Pearl	Instructor Shipboard
HUMRESMANSCOL Memphis	HRM I LMET I
NATTC Memphis	Learning Center Instructor Navy Schools Management Individualized Instruction Techniques Instructor Basic
NAVCRUITRACOM Great Lakes	Company Commander School
NAVCRUITRACOM Orlando	Company Commander School
NAVCRUITRACOM San Diego	Company Commander School
NAVSUBSCOL New London	Instructor Basic Instructor Shipboard Instructor Indoctrination Officer
NETC Newport	Instructor Basic
SERVSCOLCOM Great Lakes	Learning Center Instructor Navy Schools Management Individualized Instruction Techniques Instructor Basic

COMMAND	COURSE
SERVSCOLCOM	Learning Center Instructor
	Instructor Basic
	Technical Curriculum Development
TRITRAFAC Bangor	Instructor Basic

TRAINING ANALYSIS AND EVALUATION GROUP
Orlando, Florida

INSTRUCTOR TRAINING (IT) SCHOOL SURVEY

I. STAFFING

A. Course: __TAEG will complete__ . List the projected FY 81 man-year requirements for the instruction of this course. Include instructors and other individuals who provide direct support to the teaching effort; e.g., IT division directors and secretaries.

ACTIVE DUTY

Grade	Projected Man-years
0-4	
0-3	
0-2	
0-1	
W-4	
W-3	
W-2	
W-1	
E-9	
E-8	
E-7	
E-6	
E-5	
E-4	
E-3	
E-2	

CIVIL SERVICE

Grade	Projected Man-years
GS-12	
GS-11	
GS-10	
GS-9	
GS-8	
GS-7	
GS-6	
GS-5	
GS-4	
GS-3	
GS-2	

CONTRACT PERSONNEL

	Man-years
Supervisors	
Instructors	

II. FACILITIES

Complete with the total approximate square footage required for the teaching of the following instructor training (IT) courses: classes and labs plus requirements for direct support; e.g., directors', instructor training (IT) courses: Include space required for classes and labs plus requirements for direct support; e.g., directors', Include space required for classes and secretaries' offices. Do not include administrative support elements such as instructors', and secretaries' offices. Do not include administrative support elements such as barracks, galleys, and personnel/finance offices.

	CLASS AND LAB SPACE	DIRECT "SCHOOLHOUSE" SUPPORT SPACE
Used solely for IT	_____ ft^2	_____ ft^2
Shared--Used for IT over half the time	_____ ft^2	_____ ft^2
Shared--Used for IT under half the time	_____ ft^2	_____ ft^2

III. COURSE INFORMATION

COURSE TITLE	COURSE LENGTH	CDP	METHOD OF INSTRUCTION	NUMBER OF CLASSES (FY80)	DATE CURRICULUM WAS LAST REVISED	COURSE PREREQUISITES	STUDENT INPUT FY79 FY80 FY81 FY82 FY83

APPENDIX E

INSTRUCTOR SURVEY

INSTRUCTOR SURVEY

Included in this appendix are (a) a copy of the instructor survey form and (b) a list of courses whose instructors were recipients of the form.

PURPOSE. The purposes of the instructor survey were to determine how much training instructors in CNTECHTRA, COMTRAPAC, and COMTRALANT have been receiving and to gather the data required to calculate transportation costs for the proposed IT alternatives.

SAMPLE SELECTION. In order to acquire the desired information, it would have been desirable to randomly select a sample of instructors from the total population. However, since it was impractical to get a list of the 10,000 plus instructors currently assigned to the three commands in question, we decided to systematically select the instructor sample.

The method used was to obtain a listing of the course data processing (CDP) codes for the 4,100 courses taught by the instructor population. From this list, 230 were selected; the instructors of these CDPs were then designated the subjects of our survey. Nine hundred and eighty-four instructors completed and returned survey forms, representing approximately 8 percent of the total instructors assigned at the time.

MISCELLANEOUS RESULTS. Other than providing the critical "previous assignment" data required for calculating the transportation costs in this report, the survey revealed the following information:

I.   The 884 respondents were of the following ranks/ratings:

```
05 . . . . . .    9  (1.0%)
04 . . . . . .    8  ( .9%)
03 . . . . . .   29  (3.2%)
02 . . . . . .    6  ( .6%)
01 . . . . . .    1  ( .2%)
W4 . . . . . .    1  ( .2%)
W3 . . . . . .    1  ( .2%)
W2 . . . . . .    2  ( .3%)
E9 . . . . . .   20  (2.2%)
E8 . . . . . .   62  (7.0%)
E7 . . . . . .  247 (27.9%)
E6 . . . . . .  369 (41.7%)
E5 . . . . . .  111 (12.5%)
E4 . . . . . .    5  ( .5%)
E3 . . . . . .    7  ( .7%)
E2 . . . . . .    1  ( .2%)
E1 . . . . . .    1  ( .2%)
Unknown . . . .    4  ( .5%)

   Total . . . . . 884(100.0%)
```

II. The number of respondents who indicated that they had attended IT were:

Course	Number Attending	
Instructor Basic	795	(90.0%)
Learning Center Instr.	47	(5.4%)
Individualized Instruction Techniques	40	(4.8%)
Refresher Training for 2nd and 3rd Tour Instructors	24	(2.8%)
Navy Schools Management	7	(.8%)
Technical Curriculum Development	53	(6.0%)
LMET Instructor	36	(4.1%)
LMET	115	(13.1%)
CC Training	89	(10.1%)

III. The number of respondents who indicated that their current NAVEDTRACOM tour was their first, second, third, or fourth tour within the command were:

First tour 666   (75.2%)
Second tour. 173   (19.6%)
Third tour 36   (4.1%)
Fourth tour. 9   (1.1%)

INSTRUCTOR TRAINING COURSE SURVEY   CDP

1. Rank/Rate:_____ 2. Most recent previous assignment: _____
                                                                    (Station or Ship)

                                                                    (Nearest city or home port)

3. List all NAVEDTRACOM billets, for example instructor, learning center supervisor, company commander, etc.,
    filled during your Navy career. Begin with your current assignment and work backwards. If additional
    space is required, use the reverse side of the form.

Billet/Command	Location (including city)	From (month/yr)	To (month/yr)
			present

4. Complete the following table for all Navy/Marine Corps instructor training received during your career:

Course	Location (including city)	Course Completed (month/yr)	Did you receive TAD per diem? (yes/no)
Instructor Basic			
Learning Center Supervisor			
Individualized Instruction Techniques			
Instructor Shipboard			
Refresher training for 2nd and 3rd tour instructors			
Navy Schools Management			
Technical Curriculum Development			
Leadership Mgt. Education and Training (LMET) Instructor			
Leadership Management Education and Training (LMET)			
Leadership and Management Training (LMT)			
Petty Officer Leadership Course			
Recruit Company Comdr. School			
USMC DI School			
Human Resource Management School (HRMS) Instructor			
Human Resource Mgt Workshops (Including those given by command specialists and those received during HRM cycles)			
Other instructor preparatory courses: _____ _____ _____ _____			

COURSES INCLUDED IN THE INSTRUCTOR SURVEY

(CNTECHTRA)

COMMAND	CDP	COURSE
AVTECHTRACENDET		
Goodfellow Air Force Base, Det.	6321	CTI A2 Russian
COMBATSYSTECHSCOLSCOM		
Vallejo	1252	3DRDRMTSPS52D
	4829	TARTAR Radar SPG-51C Digital
	401P	FFG-7 CSMMC PH2
	1399	USQ-20 SYS MAINT
	4349	UYK7 DD963 PIPE
	3427	CRYP KWR-37 MAI
	401Y	CGN-38
FLEBALMISUBTRACEN		
Charleston	4808	UGC-20B/25 CBM M
	269R	MARDAN T/M I
	4813	OXGEN MECH 7L16
	022G	FCS 88/2 ADV OPR
	271C	BQR 23 BAS MA
	206J	SUBSTRG BATT
	515E	PRFST CMP CMB MA
	022E	FCS 88/2 MDF TH
HUMRESMANSCOL		
Memphis	9634	HRMS/I
NAMTRAGRU		
Memphis	3726	UH1N PWR TRN (Pendleton)
	3873	KC130FR ELEC SYS (El Toro)
	7510	F4 EGR/ENVIR ORG (El Toro)
	7700	A4 ARMAMENT (Cherry Point)
NAMTRAGRUDET		
Cecil Field	7566	APN-154 RDR BEAC
	7678	TF41A2 MAI/CER
	260E	APN-194V ELEC ALT
	8862	ATE/TF41A2 TRIM
	418H	ARA 63 RECV-DEV

COMMAND	CDP	COURSE
NAMTRAGRUDET Jacksonville	2353	AS 32 K1-C INT
	2897	ASE HLU 196 A/E
	8739	ASE MOBILE A/C
	400E	P3C INTG ELEC
	314D	ASE GTC85 INT
	7768	AN/AKT-19A
	2714	MIN COMPON REP
	4163	AN/APX-76A IFF
	4157	AN/AQA7 AN/ASA 76
	4125	AN/APN-70B INTERM
	273U	GSE CS&I INT MAI
NAMTRAGUUDET Kingsville	030U	ELEC FUND
	2849	MICRO COMP REPAIR
	9007	TA4JF FAM PILOTS
NAMTRAGRUDET LeMoore	2620	ATE MAI SUPERVISR
	7989	A7C/E INTG WEP
	0264	TA7C ELEC/INSTRU
	310P	TALLY TAPE READ
NAMTRAGRUDET Meridian	340X	TA4J AV ORG MAI
NAMTRAGRUDET Miramar	4796	EA6A ALQ 76/86
	4173	TS2109/ASA48 SAC
	338D	AWM23 CONT DISP
	4187	E2B DATA/PRO ORG
	018S	E2B EQUIP COOL
NAMTRAGRUDET Moffett Field	3267	AN/AQA7 AN/ASA 76
	7347	AN/ARC-143 COMM
	2192	CORROSION CONT
	302T	ARN 87 VHF NAV
	309Q	GLIDESLOP SYS
	341D	54H077 PROP INT
	7894	P3C6 COMM/NAV
NAMTRAGRUDET Norfolk	2352	SH2F ELEC SYS
	4551	ANUSM429/V/OPER
NAMTRAGRUDET North Island	344G	S3A ELECTRONICS
	3758	SH-3 COMM/NAV
	300M	SH3 APN-182 RDR
	345E	TF34 CER and OEC
	324J	LPH/LPD AIR LAUN
	346R	S3A ARM CONT DEL

COMMAND	CDP	COURSE
NAMTRAGRUDET Oceana	300P	APR 69 RADIO RECV
	463N	TERRAIN CLR INT
	6569	A6 AD ENTRY LEVEL
	4450	TF30P414 ENG CER
	3841	A6 A/F AND HYDS
	4445	F14A AF HYD SYS
	017P	AVIONICS CORROSI
	338G	F4 SERV/LINE OPS
NAMTRAGRUDET Whidbey Island	408W	AGE/KA6D MI-M120
	349Y	ALR50 RDR INT
	8429	CU1768A/CP926A
	316T	DAGD INFL REFUEL
	2821	EA6B ELEC SYS
NAMTRAGRUDET Whiting Field	8690	T2C A/C FAM PIL
NATTC Lakehurst	6280	AVFUN-ABE
	651Z	ABF-A1
	543H	RATCF OPS
NATTC Memphis	6242	AVA TD A1
	465A	MATC RAD TECH
NAVCONSTRACEN Gulfport	6288	SW-A
	4664	CE-J
	28-E	DRT SCBT
	541X	BU-J
NAVCONSTRACEN Port Hueneme	6149	CM-A
	2423	CE SCBT COURSES
NAVCRUITRACOM Great Lakes	6387	RTCGL BAS MIL TR
NAVCRUITRACOM	6391	AA TRAINING
	204V	NJROTC
NAVCRUITRACOM San Diego	601K	ART RTC San Diego
NAVDAMCONTRACEN Philadelphia	8511	GAS FREE ENGINER

COMMAND	CDP	COURSE
NAVDIVESALVTRACEN		
Panama City	268N	SPEC BRIEF/TNG
NAVJUSTSCOL	3090	COURT REPORTER
	540V	SPEC M/J BRIEFS
	0259	MILJUS LEGOFF
NAVNUPWRSCOL		
Orlando	6439	ADVANCED NCU PWR
NAVNUPWRTRAU		
Idaho Falls	1310	NPPO ELECTRICAL
	1322	NPPO LAB
NAVPHIBSCOL		
San Diego	540X	NAVRES TR/DRILLS
	019W	LMET DO
NAVSCOLCECOFF		
Port Hueneme	3205	SEABEE ADV MGT
	0211	MIL JUS/MIL PERS
NAVSCOLLEOD		
Indian Head	1371	NUC WEP DISPOSAL
NAVSCSCOL		
Athens	8789	SORT-MECH-207
NAVSUBSCOL		
New London	6371	SS ENL-BAS PEA
	5661	FCS 88-1 MDF TH
	3254	FS 113 C/E CM
	8757	UYK 20 (WSQ) MA
	3167	NAVTECH TP2 637CL
	4289	BKFT AIDS CONV 1
	414R	ESM TECH 688 CL
	260Z	CAMS MK I
	020H	FCSS88-1 SOFTWARE
	5994	MSR ADV TRNG
	277L	ESGM T/A
	022A	BQQ-5 TAHSG
	2804	HARPOON OFF FAM
	1303	NPPO WILD
	5419	BQN-3 ADV TRNG
	5609	BQH5/V/2 BAS MA
	8891	WPS PWR RECT 640
	5220	O2 GEN ELECT 7616
	029V	CROSS CODE TRA
	2028	SCUBA DIVER

COMMAND	CDP	COURSE
NAVSUBTRACENPAC Pearl Harbor	279G	SUB LOCK I/O PRO
	202M	OVSEA DIPL COOR
	032A	UPX-17 CMB MA
	468V	AN/BRN3 COMP ADV
	8085	BRD-6 CMB MA
	8653	RCVR CMB MA
	460L	SWSPOLCOMWEPSYST
	277C	APX-72 CMB MA
	2531	MK 21-2 LNCHR A/T
	328G	T/T MK-65 BAS MA
	2739	SINS 2-3 T/M 2
	8117	ELEC TEST EQUIP
	341V	WLR-8(V)2 BAS OP
	2565	DSL ENG OP
	330Q	HPA IR CMB MA
	331E	LP VAP CMP CMBMA
NAVSUBTRAFAC San Diego	015P	SPEC COM OFAM
	015E	SINS THY/ANA 594
NAVTECHTRACEN Corry Station	9795	EA 6 PIPREP
	016A	SLQ-32 EQIP OPS
	017A	SLQ-32 EQIP OPS
	4377	CTM BITMAN MAT
	031B	CCSOL PH1 CTR/T
	6319	CTT ICR/FLEXSCOPE
	412M	ULQ-6C MAINT
SERVSCOLCOM Great Lakes	2320	NAVRES TR/DRILLS BE/E-GSM BE/E-EM/IC C7-1 ET COM EQUIP FUN
	6488	BT ADV OPER
	415N	FFG-7 ESMM PH 1
	8417	SR OFF SHIP READ
	318L	ROM/ENCODER
	462T	VIBRATION ANALY
	275C	FFG-7 AUX MEC SYS
	2858	PROP SYST INOCT
SERVSCOLCOM Orlando	6005	SM A BE/E-RM-FLEET BE/E-GMM BE/E-ET-RAD-AEF
	601D	TM SUB OP SPEC
	3663	TORP MK 14 IM
	6034	TM BASIC SUB OP

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COMMAND	CDP	COURSE
SERVSCOLCOM		
San Diego	4212	SHIP'S STORE MGT
		BE/E-ET-RAD-NF
		BE/E-TM-SUB
	544U	CUDIXS MAINT
	027D	FMS HP8580A SA
	3627	COMM SUPV/ADV/
	3202	NNC WELDING
	4814	AN/VRC-46 MAINT
	4543	NBSV SA MAINT
	4479	AN/SPS-10 VCS MA
	266P	2M REPAIR PROGA
TRITRAFAC		
Bangor	410B	TRI STRA WEP ADV
	038N	SUBNUCENL INOC

COURSES INCLUDED IN THE INSTRUCTOR SURVEY

(COMTRALANT)

COMMAND	CDP	COURSE
NAVGMSCOL	404M	SPS-48C DIFF
Dam Neck	1071	TAR WDS-4 WDE-1
	4237	NTM NA BACKFIT
	4286	SWS NAV OFF REPL
	9779	SMS BRIEFING
FLETRACEN	3244	AN/SRC-20/21
Norfolk	3495	PLOTTER NC2-2/2A
	403M	BT MN PROP MNT
	0286	TECH PUB MATL ID
	510B	SHPB FF TEAM TRN
	2406	SPEC BRIEF/TRASW
	019L	TSEL/KY-75 LIM
FLECOMBATRACENLANT	404L	76MM MK75 GUN
Dam Neck	8904	ASCOMM OPERATOR
	9279	GUNNERY OFFICER
	5066	GUN SMALL ARMS
	5194	MK 47 COMP MAINT
	200X	OPDEC
FLEASWTRALANT	2947	ASW WATCH OFCR
Norfolk	533E	ASW SURF UNIT CS
	402L	SURF ACOUS ANAL
NAVPHIBSCOL	028M	LMET LCPO
Little Creek		
FLEMINEWARTRACEN	806D	HWS TARTAR OPER
Charleston	517Z	COMM ON LINE
	4558	REPLKR TEAM TRNG
	9391	RULES OF ROAD
FITCLANT	2181	IPC
Norfolk		
FLEET TRNG CNTR	507L	LOOKOUT TRAINING
Mayport	272N	TMA/SSPP
	9955	OFF SHIPHANDLING
	277F	GEN SHIPBD FF TRNG
	507W	DC TM TRNG
	2601	OSEAS DIPL COOR

COURSES INCLUDED IN THE INSTRUCTOR SURVEY

(COMTRAPAC)

COMMAND	CDP	COURSE
FLECOMBATRACENPAC	471S	MECH GYRO
San Diego	011R	5" 54 MK45 OP&M
	011B	WHRB W TMT
	011S	AUX BLR OPER
	5078	TDS MK 5 MAINT
	535X	SAFETY SUPV
	274T	LHA SWG TRTMT OP
	4701	SOLID STATE DEVICE
	5205	AIC QUAL
	010M	LHA NTDS UTIL
FLEASWTRACENPAC		
San Diego	345J	SQS-26 AXR MAINT
	541M	SQR-17 ORGAN MAI
	4576	AN/SQR-18A OPR
	9355	CONVOY COMMODORE
	535Q	ASW TEAM PHASE II
	3240	SQS-26 BX MAINT
	4489	BQS15 CMB MA
	5039	UWFCG MKII 111 MAI
	8364	SOSUS ADP MAINT

APPENDIX F

CIVIL SERVICE INSTRUCTOR REQUIREMENTS

CIVIL SERVICE INSTRUCTOR REQUIREMENTS

Cost estimates were made for IT alternatives II through IX on the assumption that they would be staffed by civil service instructors. The GS requirements were projected by transforming the active duty requirements (established in section III of this report) into comparable GS requirements. Detailed data follow:

	IT INSTRUCTOR REQUIREMENTS		GENERAL SERVICE (GS) REQUIREMENTS	
Alternative II	E8	13	GS-11	6
	E7	22	GS-9	33
	E6	22	GS-7	31
	E5	13	TOTAL	70
	TOTAL	70		
Alternative III	E8	13	GS-11	6
	E7	22	GS-9	32
	E6	17	GS-7	30
	E5	16	TOTAL	68
	TOTAL	68		
Alternative IV	E9	10	GS-11	3
	E8	15	GS-9	48
	E7	22	GS-7	47
	E6	27	TOTAL	98
	E5	24		
	TOTAL	98		
Alternative V	E9	5	GS-11	13
	E8	18	GS-9	40
	E7	32	GS-7	49
	E6	34	TOTAL	102
	E5	13		
	TOTAL	102		
Alternative VI	E9	9	GS-11	8
	E8	18	GS-9	48
	E7	26	GS-7	46
	E6	32	TOTAL	102
	E5	17		
	TOTAL	102		

	IT INSTRUCTOR REQUIREMENTS		GENERAL SERVICE (GS) REQUIREMENTS	
Alternative VII	E9	6	GS-11	9
	E8	14	GS-9	50
	E7	24	GS-7	45
	E6	39	TOTAL	104
	E5	21		
	TOTAL	104		

Alternative VIII	106 Petty Officers	106 GS-11, 9, 7's
Alternative IX	115 Petty Officers	115 GS-11, 9, 7's

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